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## Barriers to providing quality nutrition care for people with developmental disabilities living in group homes: a survey of the Warringah area

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**BARRIERS TO PROVIDING QUALITY NUTRITION CARE FOR PEOPLE  
WITH DEVELOPMENTAL DISABILITIES LIVING IN GROUP HOMES.**

*A Survey of the Warringah Area.*

Submitted in partial fulfilment of the requirement for the award of the degree

MASTER OF SCIENCE (NUTRITION AND DIETETICS)

UNIVERSITY OF WOLLONGONG



by

**Nicole Circuit.**

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*This project is dedicated to my brother, Grant.*

Your presence in my life will always bring great joy and laughter. You have given me the ability to appreciate the gifts each person has to share in this life, through your accomplishments.

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**(e) Abstract.**

Changes in the living conditions of people with developmental disabilities, from institutions to group homes, has meant a shift of responsibility for nutrition care. Within the Warringah Area, the high dependence of residents, and hence their reliance on staff members being educated and knowledgeable regarding their needs, raises doubts over the quality of nutrition care being delivered. The purpose of this study was to determine the nutrition knowledge of staff of group homes, and whether nutrition education for staff in group homes is required.

Seventy per cent of an estimated 205 staff returned questionnaires for analysis. Eighty-three per cent of staff received a low-unacceptably low nutrition quiz score, and 90 per cent reported needing more nutrition knowledge. Nutrition questions were categorised into (i) basic nutrition knowledge and (ii) application of nutrition knowledge. Eighty-one per cent of staff achieved a higher median score in those questions relating to basic nutrition knowledge than in those questions relating to the application of nutrition knowledge ( $S=116$ ,  $n=143$ ,  $p=0.01$ ).

This research found that there is a demonstrable need for staff training in nutrition, in particular, the application of nutrition knowledge to the specific needs of people with developmental disabilities for whom they care. Training is not beneficial if it cannot be applied and reinforced in the work environment.

Failure to recognise the need for nutrition training has resulted in questionable nutrition care. These doubts regarding resident care can be overcome by the implementation of specific and appropriate training strategies.



## **CHAPTER ONE.**

## **INTRODUCTION.**

### **1.1 Why are people with developmental disabilities at nutritional risk?**

People with developmental disability are at increased nutritional risk due to variables infrequently encountered in normal nutrition (Mercer and Ekvall, 1992). These include feeding problems, specific dietary needs, metabolic disorders, dental problems, decreased mobility, and drug-nutrient interactions (Evers, et. al., 1981; Amundson, et. al., 1994). The individuality of their nutritional needs, Ponder and Bergman (1980) have coupled with the unique problems many of these people experience in the mechanics of eating, such as the ability to chew, swallow and breathe correctly (Shapiro, et. al., 1986). Additionally, they may be at risk due to insufficient income, limited nutrition knowledge and/or care-givers who may not be able to provide an environment which promotes good nutrition.

However poor nutritional status is not synonymous with developmental disability (Wodarski, 1990). Results from recent studies of the nutritional status of people with developmental disability in the United States, suggest that clients who received nutritional rehabilitation or comprehensive nutrition services were, in general, adequately nourished and had nutrient intakes that met their Recommended Dietary Allowances (Evers et. al., 1991; Pesce et. al., 1989). Hence positive intervention regarding nutrition problems of this population can have a marked impact which in turn can maximise their overall health, as well as their educational, vocational and social potential.

People with developmental disabilities have differing needs and abilities, to the general population. The past decade has been a major turning point in society's approach to these differences. While past approaches deemed the individual to having a 'disability', contemporary approaches have focused on their ability (NSW Department of Community Services, 1994b).

There has been a major effort in Australia to move people with developmental disabilities out of institutions and into community-based residences called group homes (NSW Department of Community Services, 1994a). Group homes are the most common type of residences provided by both the government and private organisations. At the end of 1993, more than 1090 people with developmental disabilities were reported to be living in group homes throughout New South Wales. A further 2100 people are in institutions, preparing for the transition to the community (NSW Department of Community Services, 1993). Therefore only half of the institutionalised population have shifted into the community.

The transition to the community has meant a shift in responsibility for the nutrition care and feeding of people with developmental disabilities, from the large facilities to group homes and environmental settings such as schools and worksites (Ault, et. al., 1994; Minihan and Dean, 1990). Hence deinstitutionalisation has now produced new and further nutrition concerns for this population.

Although the Australian and NSW State government have passed legislation entitling people with developmental disabilities to services of the highest quality, there was no evidence that access to the community health system could be readily achieved by this minority group, nor that health professionals would be experienced or prepared to respond appropriately (Ziring, et. al., 1988; NSW Department of Community Services, 1995). Hence the important question is whether the services delivered meet the requirements of this population.

People with developmental disabilities who were living in institutions had many medical and nutritional conditions cared for within the infrastructure of that setting. However the transition to group homes has meant that the rigidity and structure of that care, plus the accessibility to services has been altered (Pitteti, et. al., 1993). Yet the chronic and often multiple conditions of these people still require management whatever their residential setting.

Studies have identified that people with developmental disabilities living in institutions are often medically frail, profoundly disabled, multiply handicapped as well as completely dependent on others for their care (Stewart, 1993; Bandini, 1982). The transition to the community for these individuals does not alleviate these conditions. In fact, some research has alarmingly found that the transition has deleteriously effected their health status (Jurek and Reid, 1994; Maisto and Hughes, 1995)

People with developmental disabilities are a critical group who will need to have preferential access to certain health services if their lives are to be improved (Beange and Bauman, 1990). The increased risk factors they have to disease, as well as the associated medical disorders and their need for specialised treatment, indicates that some of their essential rights and services are continuing to be denied, and hence their needs are failing to be met.

Due to their multiple disabling conditions, poor nutritional status is a significant, yet often ignored, issue for people with developmental disability. Their total dependence upon care-givers to identify and address their complex health needs, places them at nutritional risk, due the disparity of nutrition knowledge and skills possessed by staff (Lindeman, 1991). Additionally, the itinerant nature of this workforce, may lead to various attitudes and applications of nutrition care (Edwards and Miltenberger, 1991; Parahoo and Barr, 1994).

This risk has been associated with the view that malnutrition and poor growth common to people with developmental disabilities is considered normal and accepted as part of the untreated side effects of many disabling conditions (Pesce, 1989). These attitudes lead to such reduced expectations that care-givers tolerate major deviations from the norm (Wodarski, 1990; Webb, 1980; Stewart, 1993). Hence awareness of their needs, plus the inherent risks associated with sub-optimal health due to their disabilities, are fundamental factors in their care and need to be recognised if their needs are to be met, and not compromised.

Within group homes, there is doubt over whether the nutritional needs of residents are being met. The absence of standards for adequate nutrition care (NSW Department of Health, 1985b) together with this doubt over the adequacy of current practice highlights an inequity in the care system for people with a developmental disability.

There is an obvious need for people with developmental disabilities to have specialised nutrition care. However no research was found, based on detailed CD-ROM searches, relating to those who provide the nutrition care. Studies identifying the nutrition knowledge, skills and attitudes of residential care staff, and their influence on the provision of nutrition care in group homes for people with developmental disabilities in Australia, could not be found.

This lack of literature combined with the transition to community living, which has been shown to have a detrimental effect on the health status of people with developmental disabilities in the United States (Jurek and Reid, 1994; Springer, 1987), emphasised the need for this research to identify the significant barriers inhibiting the nutrition care of people with developmental disabilities in the Warringah Area. Hence the purpose of this study is to determine whether nutrition knowledge is a barrier to quality health care, and whether nutrition education for staff in group homes is required.

## **1.2 Benefits of this research.**

This research focuses on the views of all staff, in the Warringah Area, regarding food and nutrition issues within group homes. It is a needs assessment seeking to identify the nutrition knowledge and skills of staff, as well as their attitudes, towards nutrition care and its application in group homes. Additionally this study shall examine which training methods staff choose as most effective for nutrition education and give recommendations for particular topic areas to be addressed within the training process.

Differences in sample characteristics shall also be identified and analysed. Within this research, particular attention will be given to any differences between female and male staff, permanent and casual staff and the age of staff members.

The nutritional problems present within each of the group homes, as perceived by staff, will also be identified. In the absence of an extensive dietetic audit of group homes this is a useful step towards identifying appropriate and applicable nutrition education initiatives.

The percentage of staff in group homes who think they need more knowledge about nutrition will be assessed, as well as those who have done any formal nutrition training. With regards to the development of education for staff, this research will identify the percentage of staff who want nutrition to be part of core training. Other methods for training staff in nutrition such as Inservice Training or a consultant Dietitian visiting each house will be assessed for their perceived potential effectiveness.

At this time, no policies or standards have been developed by either the NSW Department of Community Services or the NSW Department of Health concerning nutrition in residential group homes for people with developmental disabilities. This research shall ascertain the opinion of staff members, with respect to policies and standards, as they will rate the need for guidelines about nutrition and meals in group homes. Hence the staff's responses and opinions will be valuable as a tool to measure the need for nutrition education in group homes.



### **1.3 Specific objectives of this research.**

*To assess the barriers to quality nutrition care this project will:*

- (i) Identify and evaluate the nutrition knowledge and skills of the staff members who work in group homes for people with developmental disabilities, in the Warringah Area.
- (ii) Identify and evaluate staff attitudes regarding their role in nutrition provision and its importance within the residential setting.
- (iii) Identify the staff training methods which would be considered as effective for learning about nutrition, and assess whether staff members would participate.
- (iv) Assess the need for the development of minimum standards in nutrition care for group homes within the Warringah Area.
- (v) Provide recommendations for standards in nutrition care and practice within group homes in the Warringah Area.

## **1.4 Definitions.**

### **Casual staff:**

Are employed on a 'relief' basis whereby they replace permanent staff in a number of houses if they are sick, on holidays or at training sessions.

### **Deinstitutionalisation:**

A term describing the policy of closing large residential facilities where disabled people are congregated together, and moving them to community-based accommodation.

### **Developmental disability:**

A disability which is congenital or develops during childhood; often permanent, but can be remediated by treatment and education. Includes conditions such as cerebral palsy, intellectual disability, epilepsy and autism.

### **Duty of care:**

The obligation on the responsible service provider to attend to the needs, as prescribed, of a person in their care and to take reasonable steps to avoid injury to that person whom it can reasonably be foreseen might be injured by an act or omission of such care.

### **Group homes:**

Group homes are the most common community-based residences provided by both the Government and private organisations for people with developmental disabilities. They are a typical domestic residence where a small number of people with a developmental disability live, and receive, or have available, up to 24 hour staffing support.

**House manager:**

Has the overall responsibility of efficiently managing the group home including budgets, staffing and ensuring the needs of the residents are met.

**Institution:**

Large residential facilities that control and segregate residents. They accommodate large groups of people with a developmental disability in congregate care of more than 20 beds.

**Intellectual disability:**

This term describes a severe, chronic disability which the NSW Department of Health (1985) defines as:

(a) an intellectual or physical impairment or combination of intellectual and physical impairments;

(b) manifested before the person attains age 18;

(c) likely to continue indefinitely;

(d) resulting in substantial functional limitation in three or more of the following areas of major life activity: self care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, economic self sufficiency, and;

(e) the person's need for special interdisciplinary or generic care, treatment and other services which are of lifelong or extended duration.

**Normalisation:**

This is the most fundamental principle guiding the provision of modern services for people with an intellectual disability. It is providing people who have a disability with opportunities to live as much as possible like valued, typical people in their community. The principle of normalisation implies that all people have innate value and should be treated with respect and dignity.

**Permanent Staff:**

Are employed to work on a permanent basis a set number of hours in one group home only.

**Resident/ Client/Consumer:**

These terms are used inter-changeably to describe people with developmental disabilities living in group homes.

**Respite Care:**

Planned or emergency care for people with developmental disabilities, which offers relief to the carers for short periods of time.

**Staff/Care-giver:**

These terms are used inter-changeably throughout this report to mean individuals who are employed to care for people with developmental disability living in group homes.

## **CHAPTER TWO.**

# **BARRIERS TO QUALITY CARE: THE MEDICAL PROFESSION.**

## **2.1 Deinstitutionalisation and medical care.**

An aspect of the deinstitutionalisation of people with developmental disabilities that has received little attention is the major change in their source of medical care. The community-based residential system, Minihan (1986) explains, and the responsibility for the medical care of this population, has been shifted from the segregated and self-contained health care system within institutions to community-based physicians and the loosely affiliated service networks which comprise the community health care system.

As the deinstitutionalisation process continues, increasing numbers of people with developmental disability are living in the community. In fact Beange and Bauman (1990) estimate that 85 per cent of people with developmental disability are living in the Australian community. Hence they will be patients of general practitioners who may not be aware of their special health problems and needs.

Ziring et. al., (1988) comment that prior to the deinstitutionalisation process, there was no evidence that access to the community health system could be readily achieved by this group, nor that professionals would be prepared to respond appropriately, or that services delivered would meet the requirements of the population.

## **2.2 The need for medical care.**

Minihan (1986) assessed the need for medical services in a group of institutionalised people with developmental disabilities before their transfer to community group homes, and then followed their subsequent treatment by community-based general practitioners. As a result of the study, Minihan cautioned that policies relying solely on existing traditional community general practitioner services, lead to inadequate medical care for a number of individuals.

Until recently, as documented by Evers et. al. (1991) the malnutrition and poor growth common to people with developmental disability was considered normal and accepted as part of the untreated side effects of many disabling conditions. Frequently a care-giver's expectations for improvement of growth and nutritional status in a person with developmental disability are unrealistically low. These attitudes, as described by Amundson, et. al., (1994), lead to such reduced expectations that care-givers tolerated major deviations from the norm.

The frequency of communication problems, mobility difficulties and behaviour disorders, to name a few, explains why this population is at high risk of poor medical and nutritional health (Beange and Bauman, 1992; Gerrard, 1982). The barriers these patients have in accessing health care and the difficulties providers have in giving it, reinforces the problem that people with developmental disability unanimously have a lower health status than the general population (Hayden and DePaepe, 1982).

## **2.3 Additional barriers to medical care.**

The presence of barriers to the utilisation of services is suggested by impressions that people with developmental disabilities, living in group homes, are not evenly distributed among the health resources of the community. Gerrard (1982) continues to present other obstacles to their care such as the reluctance to provide services by practitioners who are insufficiently trained in behaviour management; negative attitudes which can be linked to categorical refusal to provide services; value judgements concerning the worth of mentally retarded people which may result in the withholding of diagnostic interventions and; facilities which present architectural barriers to people with disabilities (Minihan and Dean, 1990).

Reiss (1992) associates the present indifference of the medical profession towards the care of people with developmental disability to the term "diagnostic overshadowing". This is the tendency for clinicians to ascribe abnormalities to the one diagnosis- mental retardation- ignoring other possible conditions. Hence the full extent of their medical needs are being overlooked and ignored. The Ottawa Charter advocates equity in health, with the aim of reducing differences in health status and ensuring equal opportunities and resources to enable people to achieve their fullest health potential (Lester, 1994). This apathy, by the health profession, towards people with developmental disabilities, denies them the ability to reach a state of complete physical, mental and social well-being, which are all prerequisites for health.



There should be no question about the equity of access to health care for people with developmental disability (Hayden and DePaepe, 1982).

The results of the study done by Beange et. al., (1995) suggest that this is a critical group who will need to have preferential access to certain health services if their lives are to be improved. The increased risk factors to disease, the numerous associated medical disorders and the many which are undiagnosed, poorly managed or in need of specialised treatment, demonstrates the blatant and exposed dangers facing these people (Beange and Bauman, 1990).

These increased risk factors do offer room for intervention. However the misconceptions surrounding people with developmental disability, especially regarding health care, shall continue to disadvantage them when attempting to obtain optimum health status. This situation shall persist until awareness and improved interaction with this minority population removes the barriers that are denying them appropriate care.

## **CHAPTER THREE.**

## **BARRIERS TO QUALITY CARE: NUTRITIONAL RISKS.**

### **3.1 Nutritional risks for people with developmental disabilities.**

People with developmental disabilities and chronic illnesses are at increased risk for a variety of nutrition problems, including altered nutrient needs, drug-nutrient interactions, feeding problems, dental health and altered growth problems. Faulty assumptions regarding the primary condition may delay detection of their deterioration in nutritional status or growth (Amundson, et.al.,1994; Bax, 1989; Evers, et. al., 1981). Comprehensive nutrition services, as suggested by Yadrick and Sneed (1994), could prevent growth retardation and further disability, improve health status and decrease the cost of health care and other services for people with chronic conditions.

The benefits of nutrition programs and services can positively affect persons with developmental disabilities. The American Dietetic Association (1987) believe the benefits to include: (a) prevention of retardation and/or further disability, (b) healthier individuals who experience fewer illnesses, hence decreasing the costly medical services, (c) improved performance in education and work-related settings resulting from adequate nourishment, and (d) prevention of nutrition-related problems and complications through education of clients and care-givers.

## **3.2 Nutrition problems.**

### **3.2(a) Metabolic disorders.**

The goals of nutrition care in metabolic disorders are to maintain biochemical equilibrium for the specific pathway, to provide adequate nutrients for normal growth and development, and to provide support for social and emotional development (American Dietetic Association, 1992).

Maintenance of biochemical equilibrium is accomplished by restricting the substrate, or replacing the products and/or inducing the non-functional enzyme activity, as in Phenylketonuria, Urea cycle defects and methylmalonic aciduria, respectively (Zeman, 1991).

Nutrition risk can occur in metabolic disorders due to the restriction of certain foods and food groups, however their nutrient requirements to support growth and development are the same as those for persons without the disorder (Zeman, 1991; West, 1992). Hence the diet must be formulated to include adequate nutrients while restricting the indicated substance. In some disorders, dietary management includes the use of semi-synthetic formula, supplemented with natural foods.

To achieve adherence in dietary management, and decrease the risk of sub-optimal nutrition status, practical resident-specific guidance is necessary. The American Dietetic Association (1987) comment that treatment can be most successful when provided in an interdisciplinary setting in which all aspects of nutrition management are addressed.

### **3.2(b) Feeding problems.**

The term 'feeding problems' can be defined as the inability or refusal to eat certain foods because of neuromuscular dysfunctions, obstructive lesions, or psychological factors which interfere with eating, or a combination of these (American Dietetic Association, 1987; Evers et. al., 1991; Ohwaki and Zingarelli, 1988).

Neuromuscular dysfunction inhibits the ability of the muscles to respond properly to central nervous system stimulation because of damage to the central nervous system (Mosby, 1994).

Abnormal sensory input and muscle tone (hypotonia or hypertonia) are associated with cerebral palsy and Down Syndrome, and to a lesser extent, with developmental disability of unknown aetiology. Persons with such disabilities experience difficulties with the development of chewing skills, they may have difficulty sucking and swallowing, or they may require spoon-feeding and/or semi-solid or soft foods (American Dietetic Association, 1987). Furthermore, Evers et. al., (1991) explain that because of feeding problems, the spillage rate is high and it is also very difficult to achieve an adequate intake of fluids.

Additionally obstructive lesions or malformations such as cleft palate and lip, or macroglossia often cause feeding problems. With cleft palate, food may pass into the nasal passages and cause choking. Macroglossia may result in decreased tongue movement and delayed chewing, requiring a soft diet (Zeman, 1991).

Psychological factors may also cause feeding problems. For example people with autism often have unusual responses to their environments, such as a desire to engage in ritualistic behaviour while eating, or a heightened resistance to change (Williams, 1992; Bootzin and Accocella, 1991). These such problems may lead to food refusals and may interfere with the acceptance of nutritious food of various textures (American Dietetic Association , 1987).

People with cerebral palsy frequently have hyperactive gag reflex, tongue thrust, poor lip closure and inability to chew (American Dietetic Association, 1987). Gastroesophageal reflux is often present and recurrent aspiration pneumonia is not uncommon (American Dietetic Association, 1992). Furthermore, rumination, a self-stimulating behaviour, may result in oesophagitis, aspiration, dehydration and malnutrition as well (Johnstone and Greene, 1992). Hence feeding problems that result in inadequate energy and nutrient intake often place the individual at increased nutritional risk (Stewart, 1993).

### **3.2(c) Growth retardation/Altered growth rate.**

Growth retardation, common among persons with developmental disabilities, may result from prenatal, perinatal or postnatal causes or from any combination of these (Zeman, 1991). A relationship between low birth weight and physical and/or mental disability has been recognised for some time (American Dietetic Association, 1987).

Individuals with notable central nervous system dysfunction commonly exhibit abnormal weight-for-height ratios. Amundson et. al. (1994) comments that unlike monitoring in healthy children, there are few established parameters for defining expectations of growth (eg. growth charts). Growth patterns for children who have chronic health problems may differ from standardised norms for healthy children, and hence expectations must be adjusted accordingly (American Dietetic Association, 1981).

For a child who is chronically below age norms for height and weight, other physical parameters such as deficits in weight for height (wasting), deficits in height for age (stunting), and the presence of oedema should be monitored, and similarly in adults (Amundson et. al., 1994).

Growth retardation is consistently reported in studies of individuals with developmental disabilities (Evers et. al, 1991; Ruby and Matheny, 1982). Gouge and Ekvall (1985) found that one-third of children with developmental disabilities were below the third percentile for weight. Evers et. al., (1991) studied the nutritional status of 10 children with severe neurological deficits. Their weights were 32 - 79 per cent of the expected weight for age, indicating that growth is a major concern with this population.

Stewart (1993) assessed the factors influencing low weight in people with developmental disabilities living in the institutional setting. Of the 30 residents assessed, 26 were reported as having a Body Mass Index (BMI) in the underweight category ( $BMI < 19$ ) ranging from 11.5 - 17.5. This research asserts that insufficient energy intake to gain weight or sustain a weight gain was the fundamental reason for low weight.

The influencing factors attributable to such dramatic results appear to be (i) obviously low food intake (ii) misconceptions by staff about the amount of food eaten and the need for food, plus (iii) the occasionally high metabolic rate of the clients (Stewart, 1993).

Therefore it is clear that meeting the energy needs of individuals with severe disabilities is extremely difficult, however increases in energy intake and weight brought about by nutritional rehabilitation programs indicate that amelioration of underweight is possible (Stewart, 1993; Evers et. al, 1991; Gisel and Patrick, 1988). Hence these studies emphasise the need for close monitoring of nutritional status, as low energy intake was a major finding among people with a developmental disability.



### **3.2(d) Obesity and cardiovascular disease.**

Factors contributable to obesity in people with developmental disabilities are hypotonia, lack of nutrition knowledge, inappropriate feeding/eating practices and obesity-related syndromes such as Prader-Willi and Lawrence-Moon-Beidel (Green and McIntosh, 1985; Rotatori and Rotatori, 1979). In addition to the increased risk of hypertension, diabetes, heart disease, hyperlipidemia and decreases in pulmonary function (Pickwickian syndrome), obesity in people with developmental disabilities can have negative social consequences and requires greater effort from caregivers (American Dietetic Association, 1992).

An area of critical importance concerning health consequences of people with developmental disability living in group homes, is the level of control in terms of their diet and physical activity level. As the shift in living arrangements continues, it is important to look at its impact on the health status of people with developmental disability (Rimmer et. al., 1993; Hollins, 1985).

The very high incidence of obesity has been recognised as a health problem amongst this minority population. Rimmer et. al. (1993) strongly suggest that living arrangements play a significant role in obesity rates of people with developmental disability. They indicate that less restrictive settings, such as group homes, present greater opportunities for consumer choice in all aspects of daily living, including nutrition, exercise and other lifestyle factors (Minihan and Dean, 1990).

Whereas in the institutional setting, the clients do not have access to food, other than what is provided to them at meals, via a structured menu plan, hence their intake is restricted. Therefore, the breakdown of the structured network that people with developmental disability are familiar with, may lead to additional health concerns that must be acknowledged and addressed.

Rimmer et.al., (1993) studied the prevalence of obesity in adults with developmental disabilities living in various residential settings. Their findings were striking in that they were able to compare living arrangements and control for the level of developmental disability. They compared subjects in the institutional group with severe or profound developmental disabilities with those living in less restrictive settings who were also classed as severe or profoundly disabled.

The data overwhelmingly showed that adults with severe or profound developmental disabilities living in a group home setting had much higher levels of obesity, in comparison to the institutional setting. For females, obesity rates in the group home setting were more than double that of females living in the institution, and for males, the incidence of obesity was nearly five times higher in the group home setting. In light of these findings, the data shows that a disproportionate number of adults with developmental disability can be classified as obese. Hence these data strongly suggest that living arrangements play a significant role in the obesity rate in people with developmental disabilities (Rimmer et.al, 1993; Rimmer, et.al., 1994; Green and McIntosh, 1985).

However the result indicates that the incidence of obesity among this population is higher than in the non-developmentally disabled population. In the Goals and Targets for Australia's Health in the Year 2000 and Beyond (Nutbeam, et. al., 1993), the goal for people with developmental disabilities is to reduce the impact of that disability. One of the articulated targets is "to reduce the prevalence of obesity and overweight in young people and adults 13 years or more with established developmental disability". Obviously this population is at nutritional risk. Therefore they must be given the opportunity to access information and have a supportive environment whereby the potential for making healthy choices is advocated and promoted, and the proportion of the population with obesity is reduced.

In addition, Rimmer et.al., (1994) investigated the cardiovascular risk factor levels associated with people with developmental disabilities. Their results indicated that adults with developmental disabilities had cardiovascular risk profiles similar to those of individuals without developmental disabilities in the Framingham Offspring Study. The study highlighted the extent to which cardiovascular health is a concern to the general population, and emphasised that it must also be a concern for individuals with developmental disabilities.

Hence the continuing expansion of less restrictive community living options and the increasing emphasis on consumer choice, makes the development and implementation of nutrition education for individuals with developmental disabilities a wise investment (Minihan and Dean, 1990). Rimmer et.al. (1994) reinforce this view by suggesting that nutrition education should become an important component of the concept and practice of supported community living.

### **3.2(e) Drug-nutrient interactions.**

Long-term drug therapy is frequently required for people with developmental disabilities. Its use may be for conditions such as epilepsy, attention deficit disorders, behavioural disturbances, recurrent infections (particularly those involving the respiratory and urinary tract) and chronic constipation (American Dietetic Association , 1987).

Chronic use of anticonvulsant drugs can result in disorders of vitamin D, mineral and bone metabolism. Since physical inactivity causes a reduction in bone mass, osteopenia is greater in nonambulatory persons taking anticonvulsant drugs (Wodarski, 1990). Caliendo et.al., (1982) documented that anticonvulsant therapy may also result in folate deficiency, and may increase serum iron levels and decrease serum ferritin and total iron binding capacity .

Central nervous system stimulant and depressant medications are frequently given to persons with developmental disabilities. Stimulants used in children with attention deficit disorder, appear to depress appetite and suppress growth (American Dietetic Association, 1987). However depressants such as tranquillisers and lithium, have been shown to increase appetite, food intake and weight gain (NSW Department of Health, 1987).

Laxatives are often prescribed for constipation resulting from decreased or an increase in muscle tone, inactivity, reduced fluid or fibre intake, or the use of certain drugs. When taken in excess, laxatives may cause protein-losing

enteropathy and potassium loss. Also, mineral oil is often used as a lubricant (NSW Department of Health, 1987). This may decrease absorption of carotene, fat-soluble vitamins, calcium and phosphate (Capra and Hannan-Jones, 1992). Hence careful nutrition supervision is required.

Because of such drug-nutrient interactions, Amundson et.al., (1994) suggest that continual assessment of the drug usage, dosage and multiple drug regimens of people with developmental disabilities be a priority. Furthermore the need for nutrition counselling may be indicated, as vitamin and mineral supplements may be required (American Dietetic Association, 1992; Jones, 1989).

### **3.2(f) Constipation.**

Poor bowel functioning and chronic constipation is a well documented problem in persons with severe developmental disabilities (Capra and Hannan-Jones, 1992). Chronic constipation is regarded as a problem for the non-disabled population, particularly in those following a typical 'western' lifestyle.

This is associated with low fibre, low fluid intake and low exercise levels (Lester, 1994). For residents in group homes following western style diets, the combination of low fibre, high fat foods with low oral fluid intake may be compounded by the need to consume blended drinks and soft food.

Additionally, structural problems with the gastrointestinal tract may further reduce bowel function (Jones, 1989). The combination of these factors has frequently led to the use of laxatives, suppositories and enemas, which in turn affect the quality of life of the residents (Warpula, 1981).

Capra and Hannan-Jones (1992) trialed dietary manipulation of diets of people with severe developmental disabilities and found that the inclusion of one-third cup of a fibre supplement produced a beneficial effect on bowel functioning. Their result reinforces that improving the regularity of fibre and fluid intakes will assist in the management of chronic constipation and assist in the prevention of constipation.

In the study by Capra and Hannan-Jones (1992), a nutrition assessment was completed by the staff at the group homes involved, and chronic constipation was identified as a problem. Despite the general views that diet was important in

the prevention of constipation, carers' opinion as to whether diet could assist residents with long-standing constipation was divided. They were concerned that the constipation contributed to poor utilisation of anti-convulsive medication, therefore increasing the need for the control of chronic constipation, and the use of drugs to do so.

However one of the Goals and Targets for Australia's Health in the Year 2000 and Beyond for people with developmental disabilities is "to reduce the unnecessary use of multiple prescribed medications" (Nutbeam, et. al., 1993). Therefore the implementation of dietary strategies to cease the use of medications is a positive step towards improving the health of this minority population.

### **3.2(g)            Regurgitation and rumination.**

Regurgitation is defined by Mosby (1994) as the return of swallowed food into the mouth, and rumination as the chronic regurgitation, rechewing and reswallowing of previously ingested food in repeated cycles following meals. Regurgitation may be caused by a motor problem such as increased muscle spasms due to cerebral palsy, or a physiological cause such as hiatus hernia. However rumination is seen as a pathological condition.

The consequences of rumination are both behavioural and medical. Johnstone and Greene (1992) believe that it can be a primary contributing factor in malnutrition, dehydration and decreased resistance to disease. Also it is damaging to teeth and skin. These health effects are sometimes life threatening, and mortality rates of 12-20 per cent have been attributed to chronic rumination (Jones, 1989).

Dietary variables may effect ruminating behaviour. Johnstone and Greene found that there was a relationship between ruminating and food quantity manipulations. Mean rates of ruminating were highest under normal meal sizes of 250-500g and decreased across increasing meal sizes. No subjects in their study ruminated when consuming meals larger than about 2000g and some ceased ruminating at quantities as low as approximately 1000g.



Rast, et. al., (1988) also studied ruminating and found that increased caloric density corresponded with modest decreases in ruminating and that pureed consistency produced more ruminating than did the same food served in normal consistency. Therefore rumination may require food satiation procedures to inhibit its frequency. These results indicate that correct management of this condition can decrease the ruminating and regurgitating episodes (Rast, et.al., 1988; Johnstone and Greene, 1992).

The importance of oral health to physical and mental well-being, as well as to habilitation and social acceptance, is known to the dentistry and some public health experts, but may be forgotten by care-givers of people with developmental disability.

The dental condition of people with developmental disabilities is commonly affected by their mental and physical disorders, oral neglect, anticonvulsant medication, xerostomia, rumination, orthodontic and maxillofacial surgical needs (Jurek and Reid, 1994, Zeman, 1991). They believe that appropriate dental treatment influences both the physical and mental health of clients and affects not only oral pain and infection but also nutrition, digestion, ability to enjoy food, and speech.

To reduce the impact of established disability as explained by Nutbeam, et. al., (1993), one of the proposed targets for this population is "to increase the proportion, with current dental disease, who are diagnosed and treated". Hence the need for additional preventive services, and the identification of diet and its role in oral health, may assist this population in reaching one of the goals attributable to better health status.

Jurek and Reid's (1994) results concerning people with developmental disabilities living in group homes were alarming. They reported that preventive dentistry is a greater problem for people with developmental disabilities living in the group home setting, than for those living in the institutional setting. Hence oral health may be seen as an associated risk with nutrition status and the transition to community living.

### **3.3 Barriers to nutrition care: The care-giver/staff.**

Some nutritional risk factors and problems are care-giver related. Care-givers may include: parents, guardians, teachers, staff members in group homes or anyone who is responsible for helping the individual with daily activities or living skills (American Dietetic Association , 1987). The various roles these care-givers play, as well as the differing nutrition knowledge they may possess, can cause inequity and hence differences in the application of nutrition care, within the group home environment (Webb, 1980).

Care-giver related problems include difficulty in understanding and implementing diet instructions, inappropriate feeding practices, lack of knowledge regarding proper food selection and preparation, and difficulty setting limits around food and feeding (Lindeman, 1991). Furthermore, some care-givers are vulnerable to nutrition misinformation which may result in practices such as fad diets, megavitamin therapy, restrictive dietary regimens, supplemental products of various origins and meal planning based on erroneous concepts (American Dietetic Association , 1992).

These problems obviously can influence and increase the nutritional risk associated with people with developmental disability, when they are dependent on care-givers for adequate nutrition (Perry, 1992). Such practices elude to the need for standards in nutrition care. The provision of guidelines for care-givers to follow, regarding wise food choices and dietary adequacy for residents, may reduce many of the risks associated with care of people with a developmental disability.

### **3.4 Barriers to nutrition care: The residents.**

Within group homes, residents may be given the responsibility to make their own food choices independently. However they often possess insufficient nutrition knowledge and/or food skills to meet their nutrition requirements (Mercer and Ekvall, 1992). They may also be especially vulnerable to the influence of mass media in food habits, attitudes and knowledge about nutrition. This may lead them towards choosing fast-food, confectionary or participating in diet-fads.

Green and McIntosh (1985) assessed the food and nutrition skills of people with developmental disabilities and found that ongoing reinforcement of basic nutrition knowledge and skills was critically needed. Lindeman (1991) studied the nutrition concerns, expressed by house managers of group homes, regarding the residents and their ability to make wise choices when preparing meals. Menu design and obesity were the two major topics of concern. Menu design included selecting 'healthy meats', varying vegetable selection, variety of meals, decreasing fat content of meals and having low-energy snacks for in between meals.

Obesity was seen as a concern due to the residents easy access to snack food such as lollies and chips, their low-level of exercise and the limitation, due to the functional level of the residents, of using fresh fruit and vegetables, when they are preparing a meal (Rimmer, et. al., 1993). These studies reinforce the need for nutrition education within group homes. This education should be available to both staff and residents to ensure wise food choices and adequate nutrition provision to meet each residents dietary requirements.

### **3.5 Nutritional risk and the deinstitutionalisation process.**

Therefore nutritional risk in the deinstitutionalisation process may be due to factors such as (i) inequity of nutrition knowledge and its application, (ii) lack of generic health services that relate to developmental disability, (iii) lack of nutrition education in group homes, (iv) lack of professional assistance in planning nutritionally optimal menus to suit the residents, and (v) inadequate teaching of the residents regarding how to cook/shop to fulfil their specific dietary needs (American Dietetic Association, 1992; Beange, et. al., 1995; Shapiro, et. al., 1986). Without these factors being considered, this population are at risk of sub-optimal nutritional status, and hence health.

Therefore the shift from institutions to group homes, and the process of normalisation, should not compromise the quality of health and health care that people with developmental disability receive. However this shift to community living has produced another nutrition concern for these people - who is responsible for their nutrition provision and care?

## **CHAPTER FOUR.**

## **THE QUALITY OF CARE.**

### **4.1 What is care?**

The term 'care' is widely applied in the field of developmental disability, whether it be residential care, home care, attendant care, medical care and so on. Raven (1989) asks the question "what is care?" Is it an act or attitude? Is it inherent or can it be learned? Is it definable?

Caring, as explained by Raven (1989), may involve a responsibility or obligation on the part of the care-giver. This is often evident in legal matters where terms such as 'duty of care' signify responsibilities of those who professionally or voluntarily care for others.

In its most general form, caring relates to the physical actions involved in the maintenance of another person's needs. At this level an individual may care for another, but may not actually care about them. Firth and Barrow (1981) outline that the professional nature of providing care to and for people with developmental disabilities signifies both legal and moral responsibilities. This notion is reinforced by the normally dominant relationship of the carer over the cared-for.

The most common interpretation of care is at the love and affection level, where importance is placed upon the development of a close and interpersonal relationship between the carer and the cared-for. This interpersonal relationship is inevitably the focal point of any caring situation and is extremely important in

the area of developmental disability (Schalock, et. al., 1994). Given the high incidence of communication problems faced by people with developmental disabilities, an empathetic caring relationship which exists on an emotional as well as an intellectual level is desirable (Raven, 1989).

## **4.2 Conceptual model of care.**

All people have basic needs and demands placed upon them in their lives, some are common to all, others individual. Presence of a developmental disability signifies an additional set of challenges which an individual must overcome in order to grow and achieve their potential. To make sense of the complex interactions that surround and involve people with developmental disabilities, a conceptual model of care is required (Raven, 1989).

The conceptual model of care assumes that all people, regardless of their developmental state, are striving towards an individual level of potential, or as Maslow described it, self actualisation (Fieldhouse, 1992). When a disability or illness, is present, this movement towards potential is held back or not satisfied. Achievement of potential may come through inherent striving for normalcy, or it may be applied through the principle of normalisation.

An underlying assumption of this model is that the majority of people, whether disabled or not, strive to be normal. Orem (1985) defines normalcy as the promotion of human functioning and development within social groups in accord with human potential, known human limitations and the human desire to be normal. Hence human potential can then be seen as the optimum balance between self-care and dependent care, within an environment, which maximises social roles in terms of quality of life, life satisfaction and degree of social integration (Raven, 1989).



The aim of care, particularly with respect to group homes, is to assist individuals to achieve their potential both through enhancement of self care behaviour, and the image that they project to the community. This is the essence of the normalisation principle, and the right of all individuals (Raven, 1989; NSW Department of Health, 1985).

## **CHAPTER FIVE.**

## **BARRIERS TO QUALITY CARE: STAFF /CARE-GIVERS.**

### **5.1 Staff in residential care.**

#### **5.1.1 The major issues.**

The transition to community living programs has meant a shift in responsibility for nutrition provision. However no education or guidance has been developed for the staff responsible for the residents' care in NSW. Research is lacking with regards to the attitude of staff towards nutrition care, whether they feel it is important, and what they think their role is in providing nutrition care in the residential setting. There was also no literature found which assessed the nutrition knowledge of staff working in group homes for people with developmental disabilities in Australia.

Lindeman (1991) studied the concerns of resident managers', regarding staff members of group homes, and their role in the nutrition care of people with developmental disabilities, in the United States. This study was initiated in response to concerns expressed by staff regarding their role as nutrition providers. Lindeman studied 8 group homes, which had a total of 61 residents living in them. Of these residents, only 6 were on a regular diet, 42 were on energy restricted diets, and another 5 were given cholesterol controlled diets.

Furthermore each house submitted for analysis a four-week cycle of meals that they would have prepared over the month. These meals were analysed by computer and found to be generally high in energy, fat and sugar and low in fibre. On average, the menus supplied 2570 kcal ( with 42 per cent of energy from carbohydrate, 16 per cent from protein, 42 per cent from fat and 24 per cent from sugar), 5.2g of sodium and 12.4g dietary fibre.

The nutrition concerns of the resident managers were: (listed in descending order of frequency)- (a) limited food budget; (b) interpretation and implementation of modified diets; (c) drug-nutrient interactions; (d) limited knowledge of general nutrition; (e) cost-effective food purchasing; (f) limited awareness of food preparation techniques; (g) system for monitoring weight change and; (h) acceptable foods for use in behaviour control.

Many of these concerns could be addressed through detailed written guidelines, careful menu reviews, staff training and on-going interaction with a dietitian.

Lindeman (1991) raised the issue that staff may have limited knowledge of modified diets, lack available information and/or the ability to plan nutritionally adequate meals. This issue is a major barrier to the provision of quality nutrition care for people with developmental disabilities, considering it is the staff who prepare and provide most of the meals.

In the group home setting, a resident may need skills in menu planning, budgeting and shopping. All of these will require them to make choices. They will have to learn to follow a recipe, learn simple cooking techniques and to use household equipment (Hollins, 1985; Pope and Buck, 1982; Perry, 1992). Concessions may have to be made, regarding dietary planning, for example using convenience foods may be very important, because of their ease of preparation when practical skills are limited.

For the person with a more severe developmental disability, developing such skills may not be possible. However, with higher staffing levels in the community than is customary in an institution, more attention may be given to individual needs (Bandini, 1982; Ziring, et. al., 1988).

Within the residential setting, persons with a severe developmental disability are more dependent on the skills of staff to provide adequate nutrition care and, hopefully, a healthy dietary regime. The skills of staff in planning, shopping and preparing meals to fit these requisites has not been researched.

### **5.1.2 Staff turnover and burnout.**

The high dependency of many of the residents, exposes the importance and responsibility care-givers have in adequately supporting individual needs (Sarata and Behrman, 1982). Hence knowledge and skills regarding nutrition provision is highly valued. However the disparity of nutrition knowledge and skills possessed by staff, may jeopardise the health of the residents.

The disparity of nutrition knowledge displayed by care-givers may be associated with the itinerant nature of this workforce (Mitchell and Braddock, 1994). High staff turnover, which Edwards and Miltenberger (1991) associate with burnout, a phenomenon well known to individuals working in the field of developmental disabilities, may lead to various attitudes and applications of nutrition care.

Maslach (1982) described burnout as a pattern of emotional overload and exhaustion that occurs when people become overly involved and feel overwhelmed by the emotional demands of working with distressed individuals. Once this emotional exhaustion develops, workers may detach themselves from emotional involvement with clients as a way of coping, therefore decreasing their care. As a result of this detachment, they may begin to experience increased negative attitude towards the residents. Feeling negative towards the residents and their job generally leads care-givers to develop a reduced feeling of personal accomplishment and a sense of inadequacy, which therefore leads to sub-optimal job performance (Edwards and Miltenberger, 1991).

High rates of direct-care staff turnover may have a negative impact on residential facilities, both in terms of cost and quality of care (Mitchell and Braddock, 1994; Sarata and Behrman, 1982). The burden of training residents to acquire requisite community living skills falls on the direct-care staff. Although these direct-care staff members are often young, inexperienced and are the lowest paid, least academically trained, they are the ones who have the greatest impact on the residents (Hile and Walbran, 1991; Minihan and Dean, 1990). Therefore, it is essential to identify whether these care-givers are knowledgeable regarding nutrition and the importance of appropriate nutrition care in the group home setting.

## **5.2 Care-givers in other environments .**

Ault et. al., (1994) addressed the shift in responsibility when studying the special health care needs of students in a special school with a wide range of developmental disabilities. The needs that were identified by teachers included nutrition monitoring and supplementation, whereby 98 per cent of the students required some form of assistance during meal time, with the majority being care-giver fed.

Teachers routinely deal with these issues surrounding feeding, yet are another group, like residential care staff, who are less likely to be educated regarding the nutritional needs of this population (Ault, et. al., 1994). Therefore these results highlight the need for educational assistance regarding nutrition for those who care for or teach people with a developmental disability.

It would be reasonable to assume that other categories of staff have a similar need. Therefore improving the knowledge of the staff members may enhance the provision of nutrition care comprehensively.



## **CHAPTER SIX.**

## **BARRIERS TO QUALITY CARE:**

### **THE DEINSTITUTIONALISATION PROCESS.**

#### **6.1 Change in the care environment.**

As described in the document 'The Valued Norm: Housing for People with Disabilities' from the NSW Department of Community Services (1994a), a description of the residential care situation was discussed, and the important points are as follows. In the past, many people with disabilities were cared for at home by their families. Depending on their family circumstances, the severity of their disability or other factors, some were accommodated elsewhere, on either a permanent or temporary basis. Many were inappropriately housed. Some people with a developmental disability were accommodated in psychiatric hospitals, while those with severe physical and multiple disabilities were usually accommodated in nursing homes, hostels and hospitals.

#### **6.2 Disability Services in NSW: A brief history.**

In the past decade, there has been a significant shift in public expectations of supported accommodation for people with developmental disabilities. Where institutional care was once an acceptable form of supported accommodation, the demand for care within the community setting is now a priority. Accordingly, government policies have had to adjust and undergo changes which better reflect the social and political trends in this direction (NSW Department of Community Services, 1994b).

This brief history of the Disability Services in NSW adapted from 'Defining Disability Services: Draft Policy Statement' (NSW Department of Community Services, 1994b) demonstrates the dramatic changes that have affirmed the rights and standards of services for people with developmental disability. Additionally, it also outlines how recent these changes are, and that the infancy of these Acts, can explain why the needs of this minority population have only been addressed in the last decade or so.

**1981            International Year of Disabled Persons.**

As a direct result of a growing worldwide awareness of the needs and rights of people with disabilities, the United Nations named 1981 the "International Year of Disabled Persons".

**1983            Richmond Report.**

The Richmond Report established the NSW Government's policy direction towards moving people with a disability out of institutions to live in the community. The report proposed the separation of developmental disability services from mental health services.

**1985            "New Directions".**

The Commonwealth published the results of the Handicapped Programs Review (1983-84) and called it "New Directions". This report established the Commonwealth Government's policy directions later expressed in the Disability Services Act (1986).

**1986            Disability Services Act.**

The Commonwealth Government passed this new law about the *rights of people with a disability* in Australia and the services for people with a disability.

- 1987**                    **NSW Disability Services and Guardianship Act.**  
The NSW Government passed this new law which represented the first step in providing a legislative framework in NSW for the rights of people with disabilities. It also addressed what must happen when people with a disability can't make important decisions for themselves.
- 1991**                    **Commonwealth State Disability Agreement (CSDA).**  
The Government in Canberra and in NSW decided which services the NSW Government will look after and which services the Australian Government will look after. They agreed that NSW will make a new law about the rights of people with a disability.
- 1993**                    **NSW Disability Services Standards (NSW DSS).**  
These standards apply to all service types and will be rigorously monitored to ensure that services delivered to people with disabilities are of the highest quality, are accessible and able to respond to the individual needs of the consumers.
- 1993**                    **Disability Services Standards (NSW DSS).**  
The Commonwealth Government wrote these new rules to help services become even better.
- 1993**                    **NSW Disability Services Act (NSW DSA).**  
**Complaints Appeals and Monitoring Act (CAMA).**  
The passage of these Acts represents the most significant milestone for people with disabilities, their families and carers. They are the basis upon which people with disabilities achieve their rightful place as valued members of Australian society. The Principle and Application of the NSW DSA are made enforceable by CAMA.

The government of NSW is committed to the view that people with disabilities have the same fundamental rights, freedoms and responsibilities as other people of the same age who do not have a disability (NSW Department of Community Services, 1995). This commitment was an important, and necessary, step towards normalcy for this population. However their rights for appropriate and accessible health care have not been adequately addressed.

### **6.3 Rights of people with developmental disabilities.**

The document 'The Valued Norm: Housing for People with Disabilities', produced by the NSW Department of Community Services (1994a), reinforces that people with disabilities have the right to ensure that their specific needs are met. Their rights, which apply irrespective of nature, origin, type, or degree of disability, include the following:

- Persons with disabilities are individuals who have the inherent right to respect for their human worth and dignity, persons with disabilities have the right to live in and be part of the community.
- Persons with disabilities have the right to realise their individual capacities for physical, social, emotional and intellectual development.
- Persons with disabilities have the same rights as other members of Australian society to services which will support their attaining a reasonable quality of life.
- Persons with disabilities have the right to choose their own lifestyle and to have access to information, provided in a manner appropriate to their disability and cultural background, necessary to allow informed choice.

- Persons with disabilities receiving services have the same right as other members of Australian society to receive those services in a manner which results in the least restriction of their rights and opportunities.
- Persons with disabilities have the right to protection from neglect, abuse and exploitation (NSW Department of Community Services, 1994a).

## **CHAPTER SEVEN.**

## **BARRIERS TO QUALITY CARE: LACK OF STANDARDS.**

### **7.1 The need for appropriate nutrition services.**

Benefits of providing nutrition services to people with developmental disabilities include prevention of growth retardation or further disability; improvement of health status, resulting in fewer illnesses, shorter hospital stays and decreased medical costs (Minihan and Dean, 1990); adequate nourishment allowing persons to perform optimally in the educational or work setting (Yadrick and Sneed, 1994; Ault, et. al., 1994); and empowerment of clients and/or care-givers to take responsibility for their health and nutrition, including food selection and preparation (American Dietetic Association, 1992).

To meet the multiple needs of people with developmental disability, adequate measures must be instituted, such as ongoing nutrition monitoring within the local, state and federal health care programs. Additionally the inclusion of dietitians with experience in developmental disability at the levels developing policies in areas of educational, vocational and health services, would also be beneficial (Ziring, et. al., 1988). However at present in NSW, as shown by Stewart (1993) such interventions are not occurring and this minority population is continuing to be denied adequate health care.



## **7.2 Guidelines for group homes.**

The NSW Department of Health produced 'Guidelines for the Development and Operation of Residences for Persons with Developmental Disability' (NSW Department of Health, 1985c). These Guidelines outline the duties of staff, a management care model, operation of household finances and daily operation of a residence.

Addressed in the 'Duties of the Staff' section of the Guidelines are that they are responsible for the day to day operation of a residence, i.e., the physical care, well-being and development of the residents; and that it is desirable for staff to provide appropriate models in terms of dress, language, interaction and general presentation. However at no stage do the duties outline nutrition provision (or health care), unless the "well-being" of the residents' is meant to encapture individual nutrition needs.

Under the title "Financial Operation of the Residence" is the heading 'Food and Domestic Purchases'. Care-givers are encouraged, to the extent that the residents are able, to allow them to assist in shopping for the house. Furthermore under the heading 'Cooking', to the extent that the residents are able, they should be involved in food preparation and cooking, and should receive instruction to develop these skills further (NSW Department of Health, 1985c). However there are no guidelines regarding the most efficient way to shop, incorporating the various needs of the residents, nor establishing whether the staff member is able to cook, and hence able to teach the residents to do so.

Within the section "Daily Operation of the Residence" is the heading 'Resident Meals'. It advises that three nourishing meals should be provided daily to all residents in accordance with community style and individual needs. Also it adds that where possible, residents should participate in menu planning, shopping, food preparation and cooking. However at no point is the knowledge of staff members measured to ascertain whether they can provide nourishing meals, develop a menu plan or identify individuals needs.

### **7.3 Review of disability services and staff development.**

The NSW Department of Family and Community Services (1991) reviewed the Disability Services Staff Development. (Note that there was a transfer of departmental responsibility for disability services from the NSW Department of Health to the NSW Department of Family and Community Services in 1989. Additionally, with the change of government, the NSW Department of Family and Community Services was changed to the NSW Department of Community Services). From that review, 31 recommendations were made outlining the deficiencies in training and the needs of the staff. Recommendation No. 29 states that "a staff training course is needed which deals with health care and healthy lifestyles" (NSW Department of Family and Community Services, 1991: 9).

There is no specific course which deals with ongoing health care, health maintenance (distinct from First Aid) or healthy lifestyles. The review (NSW Department of Family and Community Services, 1991) highlighted specific items which were judged to be very important by staff, but only partly met. These included nutrition topics such as special diets, and recognising dehydration as well as managing common medical conditions. Some of these topics are dealt

with in the Inservice Training Manual for Residential Care Workers from the Developmental Disability Staff Development Unit (DDSDU), however the review also found that these training packages were infrequently used by staff, and that staff were unaware of them (NSW Department of Family and Community Services, 1991).

Individuals and organisations with special expertise concerning developmental disability services were consulted about their views on staff training. Interestingly, the lack of recognition of clients' health needs by some staff and a lack of staff training in this area was mentioned. Issues of particular importance, raised by Helen Beange (NSW Department of Family and Community Services, 1991), included nutrition, exercise, dental health, unrecognised pain (eg. chronic constipation), medication and adequate review by specialists. This information coincides with the risks that this population face. Therefore identification of an appropriate method of educating and training care-givers regarding these concerns is imperative and urgent.

#### **7.4 Staff training needs.**

Additionally, the Review of the Disability Services Staff Development (NSW Department of Family and Community Services, 1991) addressed staff training needs. Staff perceived that they had a wide range of staff training needs concerning matters not addressed in training so far, or issues they would like to be covered in greater depth. Fifteen topics were of particular importance, one of which was general health care and maintenance. Although, this topic does not adequately address individual nutrition needs, this response may demonstrate that staff are aware of a lack of knowledge and training in the topic of health and healthy lifestyles in the residential setting.

Providing nutrition support is one of the many tasks staff of group homes fulfil each day. These staff however, are not required to have any formal foodservice training, yet they provide most meals for the residents. Soneff et. al., (1994) studied the effectiveness of two training methods to improve the quality of foodservice in residential facilities for adult care (with foodservice meaning food purchasing, menu planning, and food safety and storage). The intervention consisted of either a training workshop plus foodservice manual (developed specifically for group homes), the manual only and the control group.

The results showed that training via the workshop plus the manual resulted in a significant improvement for meal planning and food safety in comparison to the manual alone. In the opinion of the authors, a workshop plus manual is the absolute minimum training strategy, with long-term follow-up deemed essential. They concluded that the benefits of providing a manual only were negligible. Furthermore they emphasised the importance of having a well-planned training program in conjunction with standards of nutrition care within the group home setting, (dependent on the staff turnover rate), as an avenue of nutrition provision to acknowledge and address (Soneff, et. al., 1994; Mitchell and Braddock, 1994).

## **7.5 Staff training and the role of the dietitian.**

Ponder and Bergman (1980) reported on a "landmark" court decision, in the United States, regarding the use of dietary standards and people with developmental disabilities living in the institutional setting. The court case ordered the use of the Recommended Dietary Allowances (RDA's) as a minimum for individual dietary intake for people with developmental disabilities. However the RDA definition 'meeting the needs of practically all healthy persons' does not always apply to people with developmental disabilities as their needs are more encompassing and require individual attention. Hence although the court order aimed to increase the health status and condition of this population, it in fact failed to address the primary problems that threaten them, those being misunderstanding and lack of knowledge of their needs.

Nutritional management is an important part of the comprehensive care and rehabilitation of individuals with developmental disabilities. However, most people with developmental disabilities do not meet the criteria for RDA's , as the physical and mental conditions of these people are often quite debilitating and require total care (Hayden and DePaepe, 1991). The range of conditions, the combination of disabilities, and the presence of disease have great variability in the population of people who are developmentally disabled.

This court case however used questionable guidelines for nutritional care, as no qualified dietitian or nutrition specialists were sought. Inclusion of dietitians in program planning, coordination and implementation at the government level would provide assurance of appropriate guidelines for the nutritional care of people with developmental disabilities (Ponder and Bergman, 1980).

## **7.6 Role of the dietitian in group homes.**

The role of the dietitian in developmental disability is a subject rarely reviewed, as indicated by the paucity of literature. However the changing field of developmental disability and the increasing awareness of this populations needs, is slowly creating an accepted path regarding the dietitians role in their health care.

Hollins (1985) researched the current views on prevention, treatment and rehabilitation and the role of the dietitian in nutrition care, in the United States. Hollins reported that in the move towards care in the community, the role of the dietitian may involve preparing menus for special diets, trying to meet individual food preferences, and including modifications to the texture of food offered. Other interventions may include nutritional counselling as well as consultation with other health professionals (Yadrick and Sneed, 1994). Interestingly, Hollins suggests that individual diet planning is the goal to work towards, if nutritional status is to be monitored and improved.

Mercer and Ekvall (1992) reinforce the need for professional assistance in planning nutritionally optimum menus, after their review of diets of adults with developmental disability living in group homes. They found that residents needed 'educated' supervision when selecting meals to meet their nutritional requirements. Hence they felt there was a great opportunity for increasing the level of nutrition knowledge among all health care and human service providers (Gines, et. al., 1990).

The dietitian may also be involved in working across the whole age range, both in prevention and in treatment (Hollins, 1985). For example early prevention of developmental disability may be assisted by providing nutrition and health education to prospective parents. Bandini (1982) emphasises that nutrition plays a larger part in prompting and/or preventing foetal damage than anyone previously imagined.

Similarly in childhood, food preparation and eating occupy such a significant part of the developmentally disabled child's day at pre-school, that the dietitians relationship with the mother may be a crucial one, eg. to achieve a sufficient nutrient intake in the infant with cerebral palsy or to prevent obesity in the child with Downs syndrome (Ferrang, et. al., 1992; Calvert, et. al., 1976). However the American Dietetic Association (1987) emphasises that dietitians working with programs that serve individuals with developmental disabilities should acquire specialised training and interdisciplinary experience to best meet their clients needs.

Developmental disability may affect one or more aspects of the feeding process (Amundson, et. al., 1994). If a special diet is required food may be unappetising, and meal times may become very difficult. With a lack of nutritional help and advice during the crucial stages of weaning, behaviour problems may develop (Hollins, 1985). These may range from regurgitation to only eating one or two food items.

Socially acceptable eating habits assume more importance in adulthood, although some maladaptive eating patterns may persist from childhood (Webb, 1980). Ideally the experience of an adequate diet in childhood, combined with appropriate nutrition education, should prepare the adult with developmental disability to be independent in dietary management (Pope and Buck, 1982; Jones, 1989). However, the person with severe developmental disability, is completely reliant on the care-giver acquiring the appropriate skills and knowledge, essential for their individual needs.

Yadrick and Sneed (1994) believes that there are many opportunities for consulting, in group homes, by dietitians. Dietitians could make a major impact in this field, however their role must first be recognised. Dietary modifications for residents, as well as addressing staff concerns for their nutrition care, are similar to those encountered by dietitians in hospitals or private consulting sessions (American Dietetic Association, 1981). Staff training may also be an opportunity for the dietitian to encourage nutrition care by advising on low-fat cooking techniques, low-cost food preparation, and using a planned menu (Lindeman, 1991). Therefore the specialised knowledge that dietitians have about nutrition should be disseminated widely.



## **CHAPTER EIGHT.**

## **METHODOLOGY.**

Data for this study was collected solely by the researcher (NC) under the supervision of Professor Ross Harris and Lyn Stewart, with the permission of the Dept of Community Services Area Manager, in the group homes of the Warringah Area.

### **8.1 Ethics.**

Ethics approval was granted by the Human Experimentation Ethics Committee at the University of Wollongong. The Dept of Community Services accepted this approval and did not request further approval within the Warringah Area.

### **8.2 Method of subject selection.**

The area chosen for this research was the Warringah Area, due to its familiarity and locality. The Warringah Area is divided into the Manly District and the St Leonards District (See Appendix 1). All staff from the group homes in these districts, that comprise the Warringah Area, were selected to participate in the study. The subjects included both permanent staff and casual staff.

Subjects were selected as those working in group homes in the Warringah Area during the period of August-October 1995.

### **8.3 Piloting the questionnaire.**

Upon completion of the draft questionnaire, it was piloted in group homes in the Illawarra Area, and also given to various dietitians and people associated with developmental disability to complete, assess and comment upon.

Generally, the feedback was positive, with only 2 questions being re-worded. However, it became obvious that Section 3 the Nutrition Quiz, was not adequate. Section 3 was changed so that an assessment of the staff's nutrition knowledge could be made. This meant that the questions had to be standardised and valid, which was what the pilot study lacked.

The questions in the Nutrition Quiz were adapted from another survey. This survey was especially formulated for health workers as part of the Rural and Remote Nutrition Education Project by the Toowoomba Health Service, Queensland. However not all the questions in the survey were used in this Nutrition Quiz, as they were not appropriate. Therefore the Nutrition Quiz section was piloted again to ensure its validity, with dietitians and the general public.

Minor changes to the formatting of the questionnaire were made, and it was then ready for printing and distribution (See Appendix 5).

## **8.4 Access to the sample population.**

The Warringah Area consists of 20 group homes. Each group home has a House Manager whose role is to over-see all events involving both the staff and the residents. Each House Manager was informed of the research. Initially they were informed by a letter from the Area Manager outlining the research to be done and that the Area Office had given permission for the research to begin.

Following the letter from the Area Manager , another letter was sent from the researcher (see Appendix 2). It introduced the researcher, the aims of the study and that contact by phone would be forthcoming. A phone call was made to each of the 20 House Managers, one week after the letters had been sent. The purpose of this phone call was to arrange a mutually convenient time such as a Staff Meeting to meet the staff and distribute the questionnaire.

For ease in organising the distribution of the questionnaire, a timetable was constructed with columns featuring all the names of the group homes, the time of their appointment, how many questionnaires were to be given and also a column for how many questionnaires were returned.

## **8.5 Questionnaire distribution and the follow-up procedure.**

Each group home was visited during their Staff Meeting. The introduction, by the chief investigator, consisted of explaining the study and the aims and purpose of the research. The questionnaire was distributed to all the staff present and these points were raised:

- The Participant Information Sheet (See Appendix 5).
- That the questionnaire is printed on both sides of the paper.
- That both permanent and relief staff are required for the research.
- That the results will be available at the end of the research.

Staff were encouraged to:

- Base the information they were to give on their experiences in one particular house or with familiar residents.
- Do the questionnaire without assistance from others.

The introduction, distribution and explanation of the study was approximately 15 minutes in length. The personal contact achieved by handing out the questionnaires aimed to assist the response rate.

Each group home was given a pink folder containing 15 questionnaires, a 'REMINDER' poster and a spreadsheet to mark off the names of the staff as they completed and returned the questionnaire (See Figure 1). The folder had printed on it 'NUTRITION QUESTIONNAIRES', so that it was identifiable and easily noticed. Fifteen questionnaires were delivered to each group home so that there was enough for those unable to attend the Staff Meeting and also for the relief staff who work in various houses.



**Figure 1:** Contents of each pink folder distributed to the group homes.

The 'REMINDER' poster was affixed to the fridge door or noticeboard of each group home, by the researcher, with permission from each House Manager. The poster said ' HAVE YOU FILLED IN A NUTRITION QUESTIONNAIRE?' (See Appendix 3). This was to raise all staff's awareness of the study being done and to remind them to complete a questionnaire. This was important as not all staff participate in Staff Meetings and so are not informed.

## **8.6 Questionnaire return and follow-up.**

Participants were given approximately three weeks to complete the questionnaire (depending upon the date they received the questionnaires). Three days previous to the date of collection, each House Manager was contacted by phone and reminded that the questionnaires were due. On the day the questionnaires were to be picked up, each group home was contacted again. This call was to establish a mutually convenient time for pick-up. If the staff were not going to be at home, they were requested to leave the pink folder containing the completed questionnaires on the front step/balcony of the group home.

If the questionnaires were not available for pick-up on the original day set for their return, the House Managers were contacted the following week, and another mutually convenient time for pick-up was made. That same week a letter was sent to all the group homes (See Appendix 4). This letter thanked all the staff who participated in the research for their contribution, and urged the staff who had not yet completed and returned their questionnaires to post them as soon as possible. This letter also advised the staff that once the study was finalised, each house would receive a copy of the results.

## **8.7 The questionnaire format.**

The questionnaire format was chosen due to the large sample size to be studied. Also it was seen as a simple, time efficient method of gaining information from respondents.

The questionnaire consisted of eight pages. Page one was the cover-sheet, identifying the questionnaire and the researcher. Page two was the Participant Information Sheet. The following six pages were the questionnaire itself, consisting of 75 questions, printed on both the back and front of the paper.

There were 4 sections within the questionnaire:

1. About You.
2. Nutrition Practice.
3. Nutrition Quiz.
4. For the Future.

## **8.8 Data analysis.**

The statistical computer package JMP was used for data analysis. All the responses from the questionnaires were coded for ease of data input, and entered into the JMP software on the computer.

The data collected from this research was used to describe the sample in terms of the questionnaire responses as well as the appropriate sub-groups.



First the data was tabulated. Both raw and percentage results were expressed to determine whether there were trends in the sample population studied. The data was also cross-tabulated to establish whether there was relationships between any of the variables being tested. Means and Standard Deviations were analysed where appropriate.

Chi-Squared, t-tests and the Sign test were used and analysed, where appropriate, to test the significance of the relationships between variables.

## **CHAPTER NINE.**

# **RESULTS.**

## **SECTION ONE: SAMPLE CHARACTERISTICS.**

### **9.1 Response rate.**

A total of 300 questionnaires was distributed. From an estimated population of 205 staff members, 143 surveys were returned in a useable form, representing a response rate of 70 per cent.

There were 111 useable surveys returned by permanent staff (an estimated response rate of 79 per cent) and 32 useable surveys returned by casual staff (an estimated response rate of 49 per cent).

**Table 9.1 Sample distribution by type of staff and response rate.**

<b>Type of staff</b>	<b>Estimated number of staff (%)</b>	<b>Useable surveys returned (%)</b>	<b>Percent response rate</b>
<b>Permanent staff</b>	140 ( 68%)	111 (78%)	79%
<b>Casual staff</b>	65 (32%)	32 (22%)	49%
<b>TOTAL</b>	205	143	<b>70%</b>

## 9.2 Age distribution.

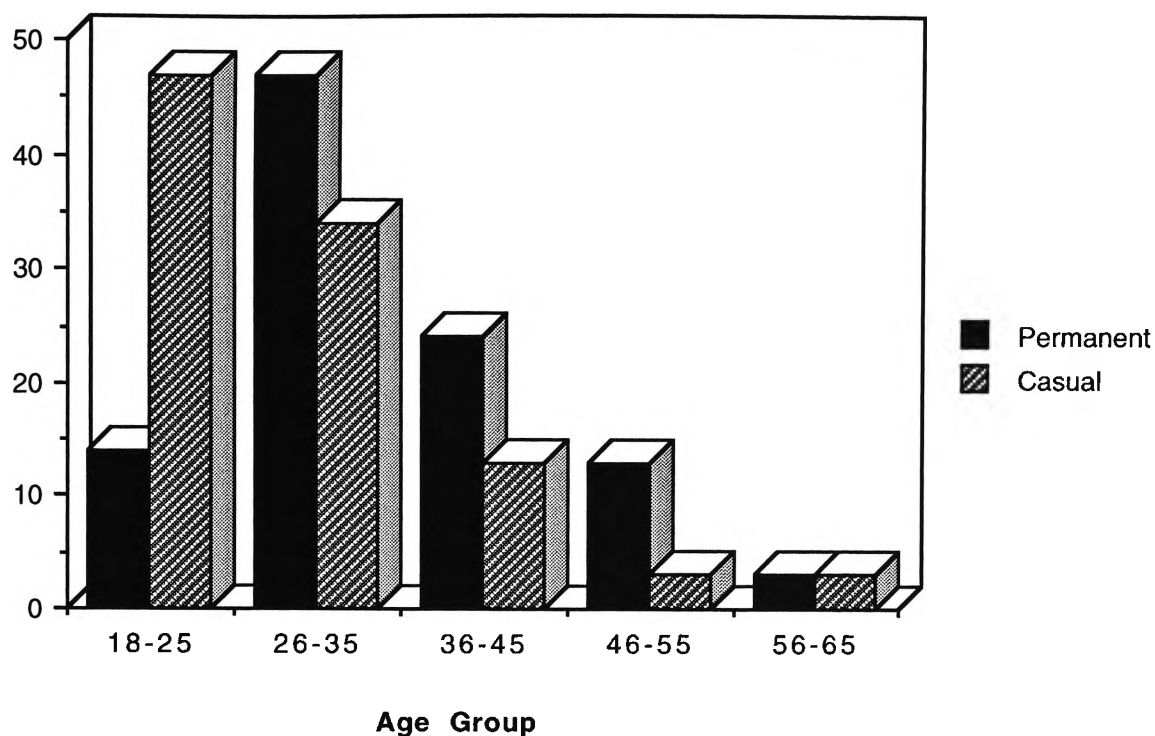
Respondents were asked to indicate their age. Forty-four per cent of staff were 26-35 years of age, with 22 per cent aged between 36 and 45 years of age, and 21 per cent between 18 and 25 years of age. The remaining 13 per cent were aged between 46 and 65 years of age.

To determine whether age is significantly associated with staff category (permanent or casual), the numbers of permanent and casual staff in the age groups 18-25 years of age, 26-35 years of age and 36 years of age and older were compared using Chi-squared. A significant association was found ( $\chi^2=17.804$ ; d.f.= 2;  $p=0.0013$ ).

Casual staff were found to be younger, than permanent staff. Almost half of casual staff were 18-25 years of age, whereas almost half of the permanent staff were 26-35 years of age.

**Table 9.2 Age distribution by type of staff.**

Age group	PERMANENT STAFF (%)	CASUAL STAFF (%)	Total Sample (%)
18-25 years	15 (14%)	15 (47%)	30 (21%)
26-35 years	52 (47%)	11 (34%)	63 (44%)
36-45 years	27 (24%)	4 (13%)	31 (22%)
46-55 years	14 (13%)	1 (3%)	15 (10%)
56-65 years	3 (3%)	1 (3%)	4 (3%)



**Figure 2:** Age distribution of respondents by type of staff.

### 9.3 Gender distribution.

The respondent sample included 62 per cent females and 38 per cent males. Sixty-three per cent of the permanent staff who returned the questionnaire were female and 37 per cent were male. Fifty-nine per cent of the casual staff were female and 41 per cent were male.

#### **9.4 Length of time respondents have worked in group homes.**

Staff were asked to indicate how long they had worked in group homes. Thirty-five per cent of the staff reported that they have worked in group homes for 1-3 years and 32 per cent had worked in group homes for 4-6 years. Permanent staff generally have worked longer in group homes, with 34 per cent having worked 4-6 years and 27 per cent having worked 7-9 years, whereas 56 per cent of casual staff reported that they have worked in group homes for 1-3 years. When analysed using Chi-squared a significant association was found between employment status and length of service ( $\chi^2 = 16.270$ ; d.f. = 2;  $p = 0.0027$ ).

This data indicates that permanent staff are significantly more likely to have worked in group homes for a longer period of time, than casual staff.

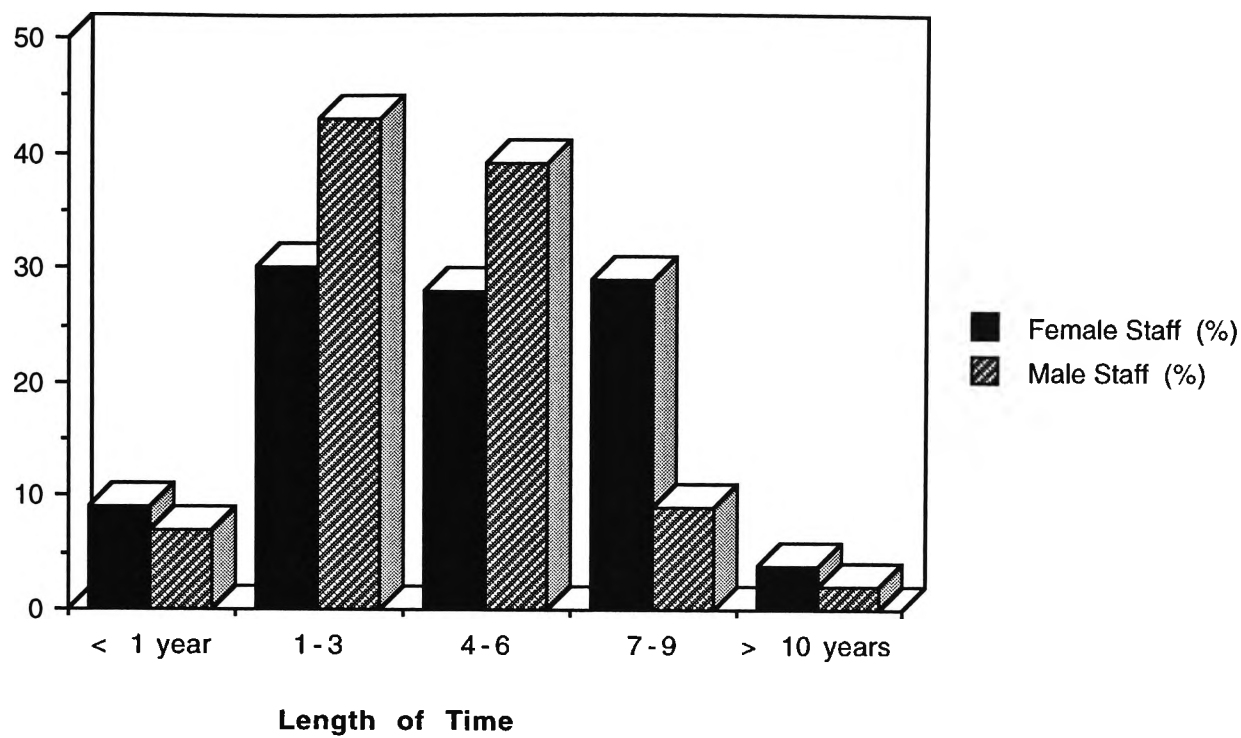
#### **9.5 Gender and the length of time worked in group homes.**

Data of both gender and the length of time that staff have worked in group homes was compared. Females tended to work for longer periods than males, with 29 per cent of females having worked for 7-9 years, 28 per cent having worked for 4-6 years and 30 percent having worked for 1-3 years. By comparison, 9 per cent of males had worked for 7-9 years, 39 per cent had worked for 4-6 years and 43 per cent had worked for 1-3 years.

Chi-squared was used to determine whether there was a significant association between length of time that staff have worked in group homes and the gender of staff. The categories of length of time entered into the analysis were 3 years or less, 4-6 years and 7 years or more. A significant difference was found ( $\chi^2 = 8.433$ ; d.f. = 2;  $p = 0.0147$ ), indicating that female staff are significantly more likely than male staff to have worked in group homes for a longer period of time.

**Table 9.3 Gender by the length of time respondents have worked in group homes.**

<b>Length of time worked in group homes</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Less than 1 year</b>	8 (9%)	4 (7%)	12 (8%)
<b>1-3 years</b>	27 (30%)	23 (43%)	50 (35%)
<b>4-6 years</b>	25 (28%)	21 (39%)	46 (32%)
<b>7-9 years</b>	26 (29%)	5 (9%)	31 (22%)
<b>10 years or more</b>	3 (4%)	1 (2%)	4 (3%)



**Figure 3:** Length of time worked in group homes by gender.



## 9.6 Hours worked each week by type of staff.

Staff were asked to indicate the hours per week they work on average. This data shows that permanent staff work more hours per week than casual staff, with 49 per cent of permanent staff working 31-40 hours per week and 33 per cent working more than 40 hours per week, whereas 47 per cent of casual staff indicated that they work 21-30 hours per week, with 32 per cent working more than 31 hours per week.

A Chi-square analysis was used to determine whether there was an association between hours worked per week and type of staff. The categories tested were 20 hours or less, 21-30 hours and 31 hours or more. When these categories were compared a significant difference was found ( $\chi^2 = 31.161$ ; d.f. = 2;  $p = 0.0000$ ). This data indicates that permanent staff work more hours per week than casual staff.

**Table 9.4 Hours per week worked by type of staff.**

<b>Hours worked per week</b>	<b>PERMANENT STAFF (%)</b>	<b>CASUAL STAFF (%)</b>	<b>Total Sample (%)</b>
<b>10 hours or less</b>	1 (1%)	1 (2%)	2 (2%)
<b>11-20 hours</b>	4 (4%)	6 (19%)	10 (7%)
<b>21-30 hours</b>	15 (14%)	15 (47%)	30 (20%)
<b>31-40 hours</b>	54 (49%)	5 (16%)	59 (41%)
<b>Over 40 hours</b>	37 (33%)	5 (16%)	42 (30%)

## **9.7 Number of residents in each type of group home.**

Staff were asked to indicate how many residents live in the group home that they work in. This data indicates that 50 per cent of the permanent residential group homes in the Warringah Area have 4 residents each. Twenty per cent of the permanent residential group homes have 5 residents each. All respite care houses in the Warringah Area accommodate 5 residents.

## **CHAPTER TEN.**

## **RESULTS.**

### **SECTION TWO: NUTRITION PRACTICE.**

#### **10.1 Residents who require assistance with cooking and preparation of meals.**

Staff were asked to report how many residents require assistance with cooking and preparation of meals. In group homes with 4 or 5 residents, 87 per cent of staff reported assisting all residents with cooking and preparation of meals. Only 13 per cent of staff assist less than 3 residents, per house, with their meals. This data indicates that most residents in most group homes require assistance with meal preparation and cooking.

#### **10.2 Level of assistance required by residents for cooking and preparation of meals.**

Staff were asked to indicate the level of assistance they provide residents with cooking and preparation of meals. Fifty-one per cent of staff reported cooking independently, and 47 per cent reported cooking with some assistance from residents. Only 3 per cent of staff reported that the residents could cook with assistance. No residents within the Warringah Area were reported to cook independently.

### **10.3 Residents who require assistance with feeding.**

Staff were asked to report how many residents they assist with feeding. Sixty-four per cent reported that some residents required assistance with feeding. Of these, 31 percent assist one resident, while 33 percent assist 2-5 residents.

### **10.4 Staff role in teaching residents to cook and shop.**

Staff were asked to indicate whether they have the role of teaching residents to cook, shop or both. The role of teaching residents how to cook was accepted by 55 per cent of respondents. The role of teaching residents how to shop was reported by 49 per cent of staff. The role of teaching both cooking and shopping was reported by 42 per cent of staff. This data indicates that approximately half the staff working in group homes in the Warringah Area have the role of cooking and/or shopping.

## **10.5 Nutrition problems in group homes as reported by staff.**

Staff were asked to indicate which nutrition problems are present in their group home. The six most frequently reported nutrition problems were overweight (78 per cent), refusal to eat certain foods (69 per cent), constipation (54 per cent), excessive appetites (43 per cent), poor appetites (41 per cent) and requiring puree or soft foods (40 per cent). Interestingly, no diabetics were reported in the Warringah Area. Results are detailed in Table 10.8.

When testing for an association between nutrition problems and the type of staff reporting the problems, significant associations were found when reporting underweight residents ( $\text{Chi}^2 = 5.511$ ; d.f.=1;  $p = 0.0189$ ) and those requiring puree foods ( $\text{Chi}^2 = 4.421$ ; d.f.=1;  $p = 0.0402$ ).

Based on the overall distribution of responses, this data indicates that casual staff were more likely to report residents being underweight and requiring puree foods.

**Table 10.1 Nutrition problems in group homes as reported by staff.**

<b>Nutrition Problems</b>	<b>YES (%) (multiple responses possible)</b>	<b>NO (%) (multiple responses possible)</b>
<b>Overweight</b>	111 (78%)	32 (22%)
<b>Refusal to eat foods</b>	98 (69%)	45 (31%)
<b>Constipation</b>	77 (54%)	66 (46%)
<b>Excessive appetite</b>	61 (43%)	82 (57%)
<b>Poor appetite</b>	60 (42%)	83 (58%)
<b>Requires pureed/soft food</b>	58 (40%)	85 (60%)
<b>Swallowing difficulties</b>	56 (39%)	87 (61%)
<b>Underweight</b>	55 (38%)	88 (62%)
<b>Allergies/intolerances to food</b>	39 (27%)	104 (73%)
<b>Reflux/regurgitation</b>	34 (24%)	109 (76%)
<b>Diarrhoea</b>	29 (20%)	114 (80%)
<b>Other problems</b>	15 (10%)	128 (90%)
<b>Diabetes</b>	0	0

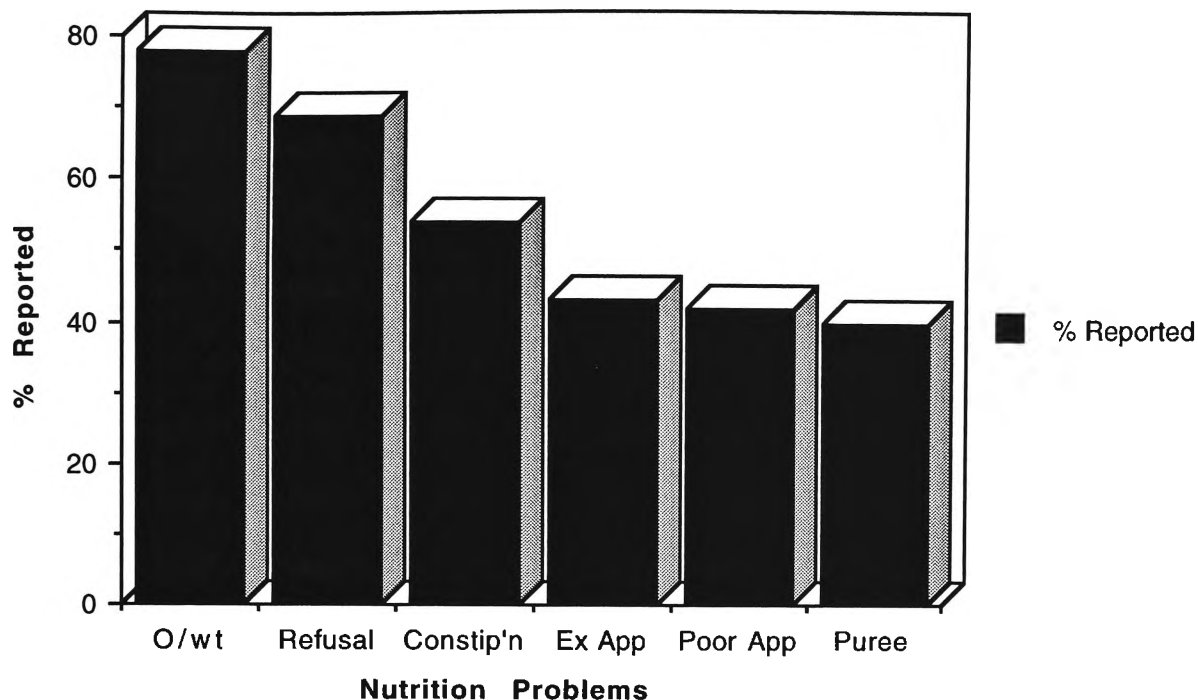
## 10.6 Special diets in group homes as reported by staff.

Staff were asked to indicate whether any of the diets listed were needed by residents in the group home. The most common diet was the low fat diet with 41 per cent of staff reporting that residents were following this diet. An additional 29 per cent reported that residents were on a weight reduction diet. Both the high fibre and puree/soft diets were reported by 35 per cent of staff. There were no diabetic diets.

**Table 10.2 Special diets in group homes as reported by staff.**

Type of Diet	YES (%) (multiple responses possible)	NO (%) (multiple responses possible)
Low fat	58 (41%)	85 (59%)
High fibre	50 (35%)	93 (65%)
Puree/soft	50 (35%)	93 (65%)
Weight reduction	42 (29%)	101 (71%)
Food supplements	16 (11%)	127 (89%)
Other eg. ketogenic	12 (8%)	131 (92%)
Diabetic	0	0





**Figure 4:** The six most frequently reported special diets in group homes.

### **10.7 Monitoring of body weight within group homes.**

Sixty-two per cent of staff indicated that body weight was monitored in group homes.

### **10.8 Monitoring body weight of ALL residents.**

The 62 per cent of staff who indicated that residents body weight was monitored, were asked whether ALL residents' body weight, within the house, was monitored. Sixty-three per cent of these staff indicated that they monitored ALL residents' body weight.

## **10.9 Frequency of body weight monitoring.**

Of those who monitor body weight, forty-seven per cent indicated that body weight is monitored monthly, 20 per cent indicated that it is monitored 6-Monthly and 16 per cent indicated that it is monitored weekly.

## **10.10 The nutritional needs of residents.**

Eighty-three per cent of the total sample indicated that they think the nutritional needs of the residents are being met.

## **10.11 Being informed of residents' special dietary requirements.**

Staff were asked whether they were informed of any special dietary requirements of the residents, and who they were informed by. Ninety-four per cent of staff reported that they were informed of the residents' dietary requirements.

Fifty-eight per cent of staff reported that the house manager provided information regarding special dietary requirements, with 53 per cent indicating that the client information file kept them informed. Other staff and parents were seen as additional sources of information.

**Table 10.3     How staff are informed of residents' dietary requirements.**

<b>How staff are informed</b>	<b>YES (%) (multiple responses possible)</b>	<b>NO (%) (multiple responses possible)</b>
<b>House manager</b>	83 (58%)	60 (42%)
<b>Client info file</b>	76 (53%)	67 (47%)
<b>Other staff</b>	65 (45%)	78 (55%)
<b>Other eg. parents</b>	31 (22%)	112 (78%)
<b>Residents</b>	10 (7%)	133 (93%)

#### **10.12     Skills in food shopping, menu planning and cooking meals.**

Staff were asked to rate their skills in food shopping, menu planning and cooking meals. Of the total sample, 60 per cent indicated that they had excellent skills in food shopping, menu planning and cooking meals. Only 10 per cent of staff reported having poor skills.

In the analysis of skills, 72 per cent of staff reported their skills in food shopping to be excellent, with 8 per cent reporting their skills to be poor. A further 20 per cent of the staff reported their skills in food shopping to be average. Fifty-five per cent of staff reported that their skills in menu planning were excellent, with 6 per cent reporting their skills to be poor. Fifty-six per cent of staff reported that their skills in cooking meals were excellent, with 15 per cent reporting their skills to be poor.

**Table 10.4 Skills in food shopping, menu planning and cooking meals.**

<b>Skills</b>	<b>Food Shopping (%)</b>	<b>Menu Planning (%)</b>	<b>Cooking Meals (%)</b>	<b>Total Sample (%) n= 429</b>
<b>Poor</b>	12 (8%)	9 (6%)	22 (15%)	43 (10%)
<b>Average</b>	29 (20%)	56 (39%)	41 (29%)	126 (30%)
<b>Excellent</b>	102 (72%)	78 (55%)	80 (56%)	260 (60%)

### **10.13 Gender and skills in food shopping.**

To assess whether there was a difference in food shopping skills between males and females, the cross tabulation of gender and the respondents' rating of their skills is detailed in Table 10.5. Staff were asked to rank their skills in food shopping from poor to excellent. When categories of poor, average and excellent were compared with gender, a significant association was found ( $\chi^2 = 7.402$ ; d.f. = 2;  $p = 0.0247$ ).

Seventy-nine per cent of female staff and 59 per cent of male staff rated their food shopping skills as excellent, whereas only 4 per cent of female staff and 15 per cent of male staff rated their skills in food shopping as poor.

Male staff reported poor skills in food shopping more often than female staff. Nearly half of male staff, and 21 per cent of female staff, ranked their skills in the poor-average categories. Hence staffs' perceived skills in food shopping differ by gender.

**Table 10.5 Skills in food shopping by gender of group home staff.**

<b>Skills in food shopping</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Poor</b>	4 (4%)	8 (15%)	12 (9%)
<b>Average</b>	15 (17%)	14 (26%)	29 (20%)
<b>Excellent</b>	70 (79%)	32 (59%)	102 (71%)

#### **10.14 Gender and menu planning skills.**

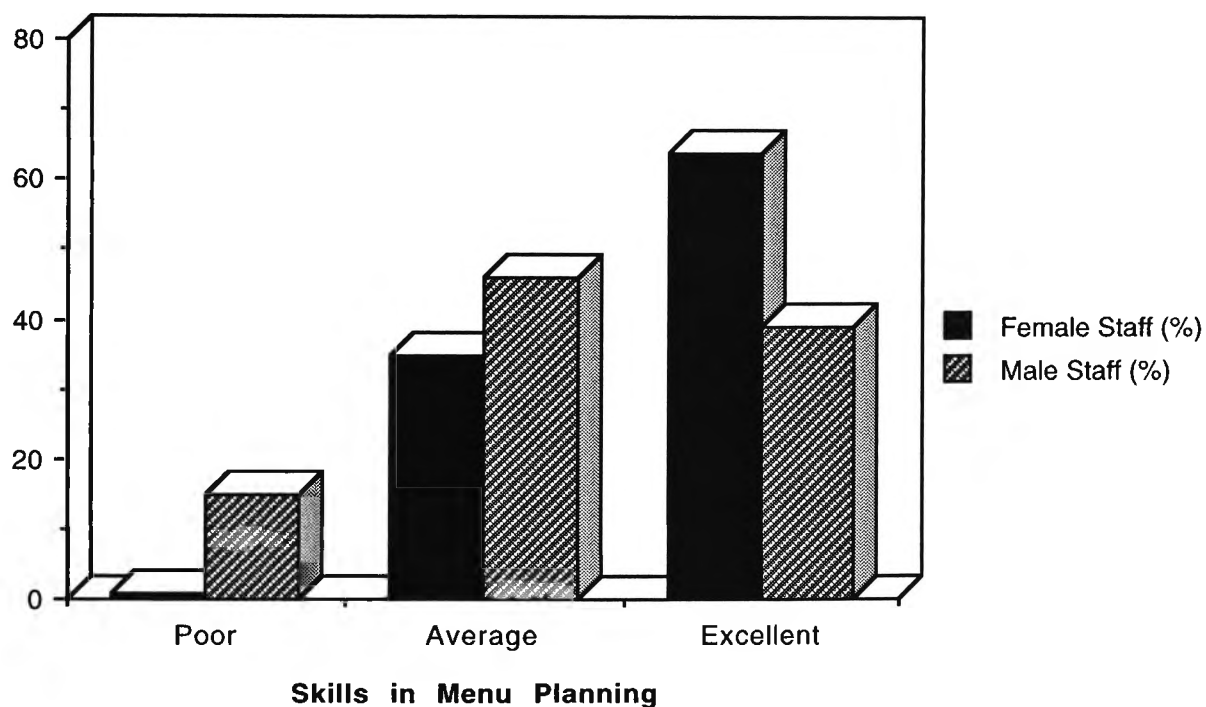
To assess any disparity in menu planning skills between males and females, the cross tabulation of gender and the respondents' rating of their skills is detailed in Table 10.6. Staff were asked to rank their skills in menu planning from poor to excellent. The categories of poor, average and excellent were compared with gender, a significant association was found ( $\chi^2 = 15.450$ ; d.f. = 2;  $p = 0.0005$ ).

In the analysis by gender, 64 per cent of female staff rated their skills in menu planning as excellent, whereas 39 per cent of male staff rated their skills as excellent. Fifteen per cent of males rated their skills in menu planning as poor, whereas 1 per cent of females rated their skills as poor. A further 35 per cent of female staff reported their skills in menu planning as average, and nearly half of male staff (46 per cent) reported their skills in menu planning as average.

Male staff reported poor skills in menu planning more often than female staff. Sixty-one per cent of male staff and 36 per cent of female staff ranked their skills in the poor-average categories. Hence staffs' perceived skills in menu planning differ by gender.

**Table 10.6 Skills in menu planning by gender of group home staff.**

<b>Skills in menu planning</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Poor</b>	1 (1%)	8 (15%)	9 (6%)
<b>Average</b>	31 (35%)	25 (46%)	56 (39%)
<b>Excellent</b>	57 (64%)	21 (39%)	78 (55%)



**Figure 5:** Skills in menu planning by gender.

### 10.15 Gender and skills in cooking meals.

To assess any disparity in skills in cooking meals between males and females, a cross tabulation of gender and the respondents' rating of their skills is detailed in Table 10.7. Staff were asked to rank their skills in cooking meals from poor to excellent. When these categories were compared with gender, a significant association was found ( $\chi^2 = 10.243$ ; d.f. = 2;  $p = 0.0365$ ).

In the analysis by gender, 60 per cent of female staff and 50 per cent of male staff rated their cooking skills as excellent. However 24 per cent of male staff and 10 per cent of female staff reported their skill in cooking meals as poor. A further 30 per cent of female staff and 26 per cent of staff reported their skills in cooking meals as average.

Male staff reported poor skills in cooking meals more often than female staff. Half of the male staff, and 40 per cent of female staff, ranked their skills in the poor-average categories. Hence staffs' perceived skills in cooking meals differ by gender.

**Table 10.7 Skills in cooking meals by gender of staff in group homes.**

<b>Skills in Cooking Meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Poor</b>	9 (10%)	13 (24%)	22 (15%)
<b>Average</b>	27 (30%)	14 (26%)	41 (29%)
<b>Excellent</b>	53 (60%)	27 (50%)	80 (56%)

### **10.16 The importance given to menu planning by gender of staff in group homes.**

Staff were asked to rate the importance of menu planning in the group home. The differences between male and female responses are detailed in Table 10.8. Of the total sample, 41 per cent of staff rated menu planning as 'very important'. However 31 per cent rated menu planning of 'no importance'. A further 28 per cent of the sample were indifferent regarding the importance of menu planning.

In the analysis by gender, female staff rated menu planning 'very important', more often than male staff. No significant difference was found.

**Table 10.8 The importance given to menu planning by gender of staff in group homes.**

<b>Importance of menu planning</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	22 (25%)	22 (41%)	44 (31%)
<b>Indifferent*</b>	27 (30%)	13 (24%)	40 (28%)
<b>Very important</b>	40 (45%)	19 (35%)	59 (41%)

\* Indifferent = do not feel strongly either way.



## 10.17 The importance of a food budget by gender of staff.

Staff were asked to rate the importance of having a food budget in their group home. The differences between Male and Female responses are detailed in Table 10.9. Of the total sample, 52 per cent of staff rated food budgets as 'very important', with 11 per cent of staff rating it of 'no importance'. A further 37 per cent of the sample were indifferent regarding the importance of a food budget.

In the analysis by gender, female staff rated a food budget as 'very important', with more frequency than male staff. However no significant difference was found.

**Table 10.9 The importance of a food budget by gender of staff in group homes.**

<b>Importance of food budgeting</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	7 (8%)	9 (17%)	16 (11%)
<b>Indifferent*</b>	33 (37%)	20 (37%)	53 (37%)
<b>Very important</b>	49 (55%)	25 (46%)	74 (52%)

\* Indifferent = do not feel strongly either way.

### **10.18 Importance of the nutrition content of meals by gender of staff in group homes.**

Staff were asked to rate the importance of the nutrition content of meals in the group home they work in. The differences between Male and Female responses are detailed in Table 10.10. Of the total sample, 74 per cent of staff rated the nutrition content of meals as 'very important', with only 2 per cent of staff rating it of 'no importance'. A further 24 per cent of the sample population were indifferent regarding the importance of the nutrition content of meals.

In the analysis by gender, both male and female staff indicated that nutrition content of meals was 'very important'. No significant difference was found.

**Table 10.10      Importance of the nutrition content of meals by gender of staff in group homes.**

<b>Importance of the nutrition content of meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	1 (1%)	1 (2%)	2 (2%)
<b>Indifferent*</b>	20 (23%)	15 (28%)	35 (24%)
<b>Very important</b>	68 (76%)	38 (70%)	106 (74%)

\* Indifferent = do not feel strongly either way.

## 10.19 The importance of residents' dietary needs.

Staff were asked to rate the importance of the residents' dietary needs in the group home. The differences between male and female responses are detailed in Table 10.11. Of the total sample, 85 per cent of staff rated residents' dietary needs as 'very important', with only 3 per cent rating it of 'no importance'. A further 12 per cent of the sample population were indifferent regarding the importance of residents' dietary needs. These results indicate that staff feel the residents' dietary needs are very important in their group home.

In the analysis by gender, both male and female staff indicated that residents' dietary needs were 'very important'. No significant difference was found.

**Table 10.11 The importance of residents dietary needs by gender of staff in group homes**

<b>Importance of residents' dietary needs</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	3 (3%)	1 (2%)	4 (3%)
<b>Indifferent*</b>	10 (12%)	7 (13%)	17 (12%)
<b>Very important</b>	76 (85%)	46 (85%)	122 (85%)

\* Indifferent = do not feel strongly either way.

## 10.20 The importance of the taste of meals.

Staff were asked to rate the importance of the taste of the meals in the group home. The differences between male and female responses are detailed in Table 10.12. Of the total sample, 74 per cent of staff rated the taste of meals as 'very important', with only 1 per cent of staff rating it of 'no importance'. A further 11 per cent of the sample population were indifferent regarding the importance of the taste of meals.

In the analysis by gender, both male and female staff indicated that taste of meals was 'very important'. No significant difference was found.

**Table 10.12 The importance of the taste of meals by gender of staff working in group homes.**

<b>Importance of the taste of meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	0	1 (2%)	1 (1%)
<b>Indifferent*</b>	11 (12%)	5 (9%)	16 (11%)
<b>Very important</b>	78 (88%)	48 (89%)	126 (88%)

\* Indifferent = do not feel strongly either way.

## 10.21 The importance of the texture of the meals.

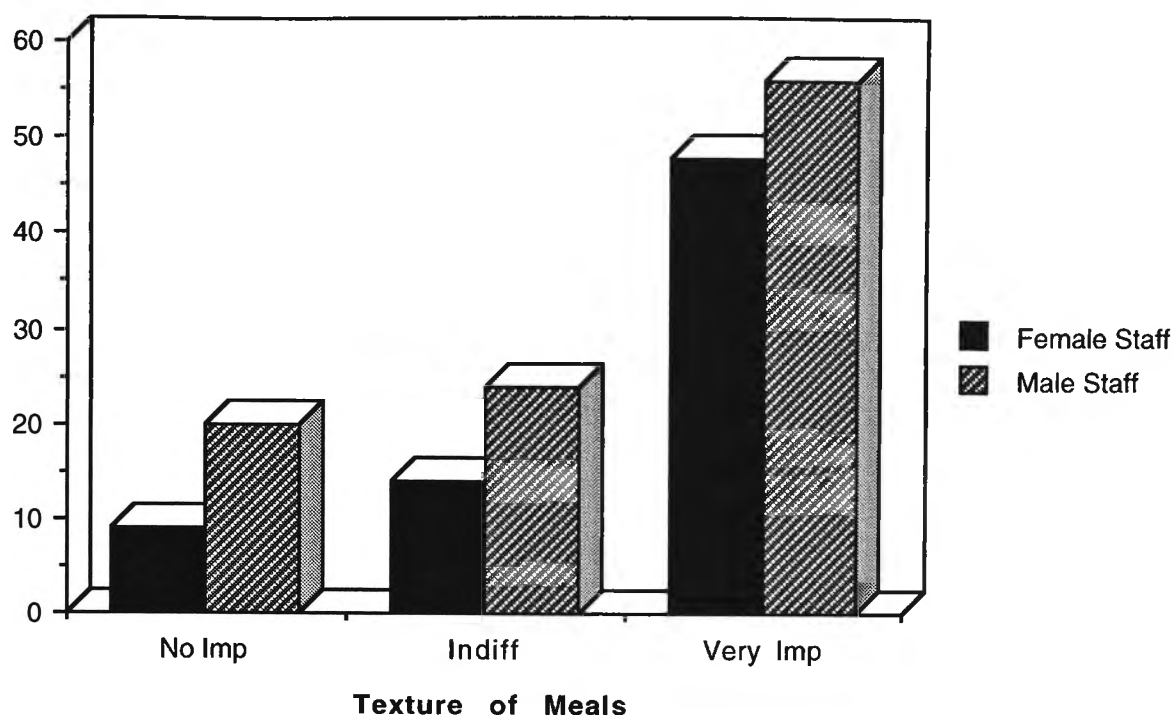
Staff were asked to rate the importance of the texture of the meals in the group home. The differences between male and female responses are detailed in Table 10.13. When the categories of response were compared by gender, a significant association was found ( $\chi^2 = 7.777$ ; d.f. = 2;  $p = 0.0205$ ).

In the analysis by gender, female staff rated texture of meals as 'very important', more often than male staff. Seventy-seven per cent of female staff and 56 per cent of male staff rated the texture of meals as 'very important'. However 44 per cent of male staff and 23 per cent of female staff rated the texture of meals as 'no importance' or 'indifferent'. These results indicate that female staff rate the texture of meals as important more often than male staff.

**Table 10.13 The importance of the texture of the meals by gender of staff working in group homes.**

<b>Importance of the texture of meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	8 (9%)	11 (20%)	19 (13%)
<b>Indifferent*</b>	12 (14%)	13 (24%)	15 (18%)
<b>Very important</b>	69 (77%)	30 (56%)	99 (69%)

\* Indifferent = do not feel strongly either way.



**Figure 6:** The importance of the texture of meals by gender.

## 10.22 The importance of the appearance of meals.

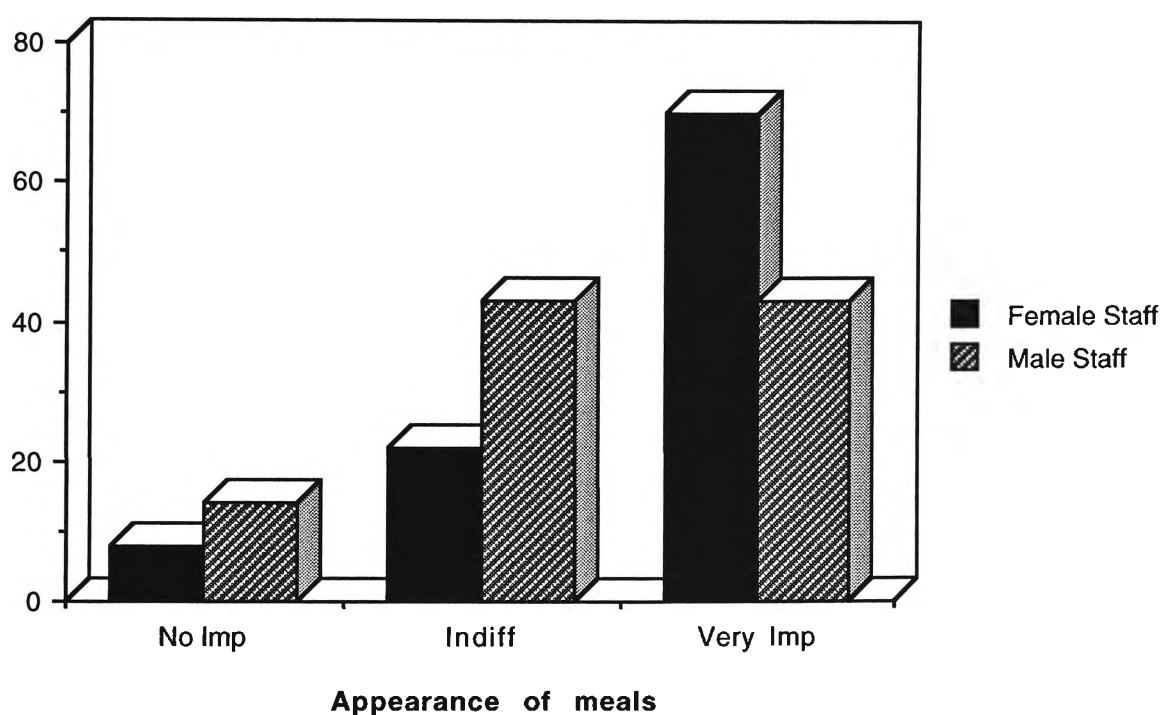
Staff were asked to rate the importance of the appearance of the meals in the group home. The differences between male and female responses are detailed in Table 10.14. When the categories of response were compared by gender, a significant difference was found ( $\chi^2 = 10.216$ ; d.f. = 2;  $p = 0.0060$ ).

Female staff rated the appearance of meals as important more often than male staff. 70 per cent of female staff and 43 per cent of male staff rated appearance of meals as 'very important'. However 57 per cent of male staff and 30 per cent of female staff rated the appearance of meals of 'no importance' or 'indifferent'.

**Table 10.14 The importance of the appearance of meals by gender of staff working in group homes.**

<b>Importance of the appearance of meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	7 (8%)	8 (14%)	15 (11%)
<b>Indifferent*</b>	20 (22%)	23 (43%)	43 (30%)
<b>Very important</b>	62 (70%)	23 (43%)	85 (59%)

\* Indifferent = do not feel strongly either way.



**Figure 7:** The importance of the appearance of meals by gender.

## 10.23 The importance of the variety of meals.

Staff were asked to rate the importance of the variety of the meals in the group home. The differences between male and female responses are detailed in Table 10.15. Of the total sample, 80 per cent of staff rated the variety of meals as 'very important', with only 3 per cent of staff rating it of 'no importance'. A further 17 per cent of the sample population were indifferent regarding the importance of the variety of meals.

In the analysis by gender, both female and male staff rated variety of meals as 'very important'. Eighty-one per cent of female staff and 78 per cent of male staff rate variety of meals as 'very important'. Only 3 per cent of females and 2 per cent of males rated it of 'no importance'. No significant differences were found.

**Table 10.15 The importance of the variety of meals by gender of staff working in group homes.**

<b>Importance of the variety of meals</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No importance</b>	3 (3%)	1 (2%)	4 (3%)
<b>Indifferent*</b>	14 (16%)	11 (20%)	25 (17%)
<b>Very important</b>	72 (81%)	42 (78%)	114 (80%)

\* Indifferent = do not feel strongly either way.



## **CHAPTER ELEVEN.**

## **RESULTS.**

### **SECTION THREE: NUTRITION QUIZ.**

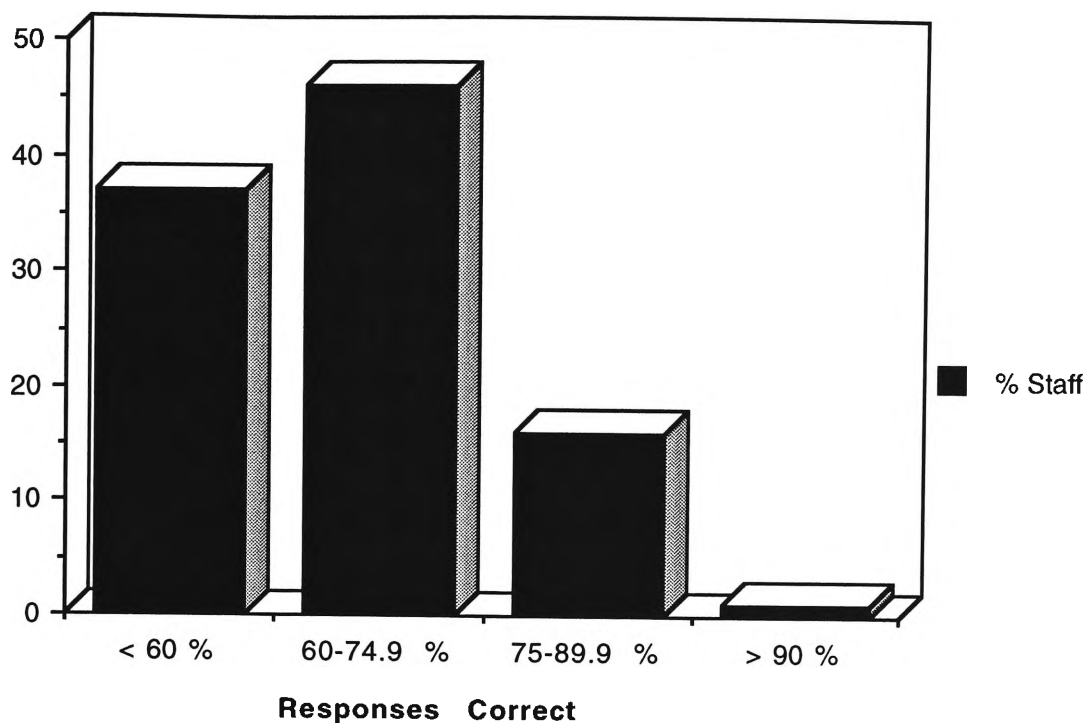
#### **11.1 Nutrition quiz results.**

A 25 question nutrition quiz was employed within the questionnaire to assess staff knowledge of basic nutrition issues. The data in Table 11.1 indicates that staff in group homes in the Warringah Area have a poor knowledge of nutrition.

Of the total sample, 46 per cent of staff achieved 60-74.9 per cent correct in the nutrition quiz, 37 per cent achieved less than 60 per cent and 16 per cent achieved 75-89.9 per cent. Only 1 per cent achieved more than 90 per cent correct. Eighty-three per cent of the total sample can be said, as detailed in Table 11.2, to have a low - unacceptably low level of knowledge. Only 17 per cent of staff have an average-high level of knowledge.

**Table 11.1 Percentage correct answers in nutrition quiz.**

<b>Responses correct</b>	<b>Number of respondents</b>	<b>Total Sample (%)</b>
<b>Less than 60 %</b>	52	37
<b>60% - 74.9 %</b>	67	46
<b>75% - 89.9 %</b>	23	16
<b>More than 90 %</b>	1	1



**Figure 8:** Correct responses in nutrition quiz.

## 11.2 Nutrition knowledge assessment scale

Tables 11.3, 11.4, and 11.5 report the correct response rates for questions asked in the nutrition quiz by gender, age and type of staff. In order to categorise levels of knowledge, the following arbitrary scale has been applied to identify nutrition knowledge deficits. This scale was based on the survey from the Rural and Remote Nutrition Education Project. The standard is derived from the results which indicated a greater than 90 per cent correct response rate to the nutrition quiz, from a sample of dietitians, representing high level knowledge.

Using this scale, most staff permanent and casual, had low-unacceptably low nutrition knowledge.

**Table 11.2 Nutrition knowledge assessment scale.**

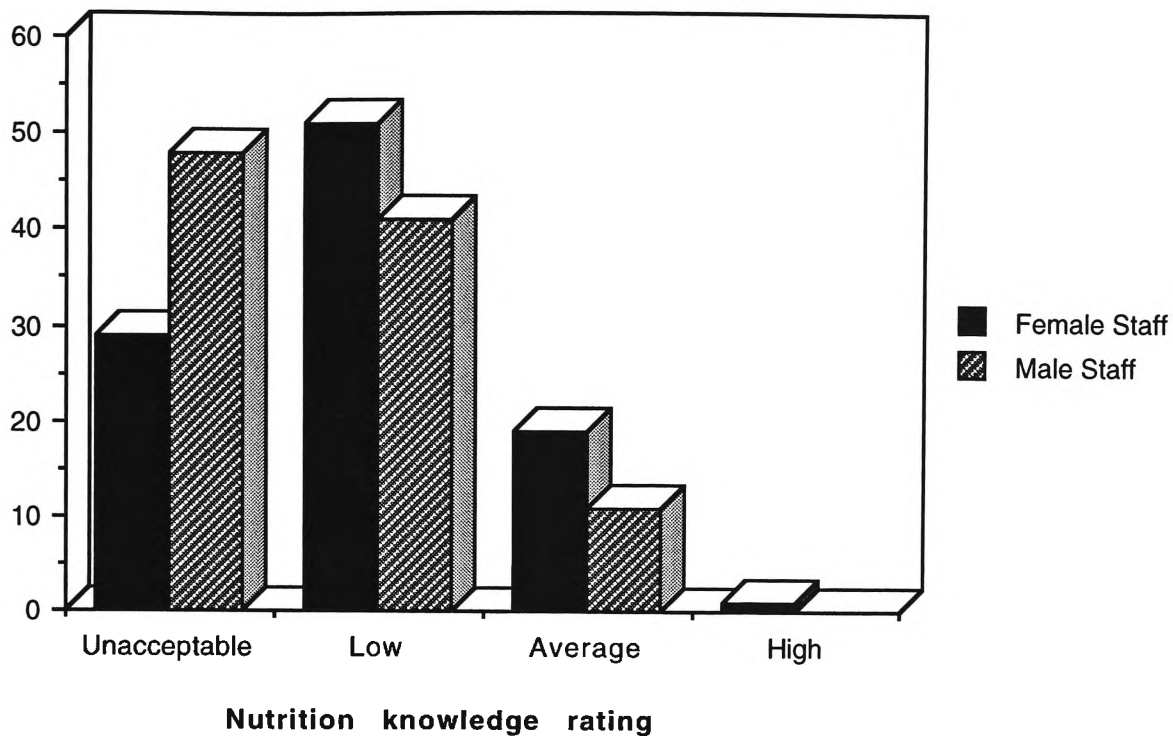
<b>Knowledge rating</b>	<b>Mean percentage correct answers</b>
Unacceptable Low Level Knowledge	< 60 %
Low Level of Knowledge	60% - 74.9%
Average Level of Knowledge	75%- 89.9%
High Level of Knowledge	90 % or higher

### **11.3 Nutrition knowledge of staff by gender.**

In the analysis by gender, a larger proportion of male staff scored within the low and unacceptable level of knowledge, than female staff, indicating a difference in nutrition knowledge between male and female staff which was significant ( $t= 2.58$ ;  $d.f.= 141$ ;  $p= 0.0108$ ). Twenty-nine per cent of female staff and 48 per cent of male staff received a knowledge rating of unacceptable. Fifty-one per cent of female staff and 41 per cent of male staff received a knowledge rating of low, and 19 per cent of females and 11 per cent of males received a rating of average, regarding their knowledge of nutrition.

**Table 11.3 Nutrition knowledge of staff by gender.**

<b>Knowledge Rating</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>
<b>Unacceptable Level</b>	26 (29%)	26 (48%)
<b>Low Level</b>	45 (51%)	22 (41%)
<b>Average Level</b>	17 (19%)	6 (11%)
<b>High Level</b>	1 (1%)	0



**Figure 9:** Nutrition knowledge rating by gender.

#### 11.4 Nutrition knowledge of staff by age

In the analysis by age, the data indicates that as age increases, staff nutrition knowledge increases. Ninety per cent of staff aged between 18 and 25 years of age received a low-unacceptably low nutrition score, whereas 67 per cent of staff aged between 46 and 55 years of age received a low-unacceptably low nutrition score. However 100 per cent of staff aged between 56 and 65 years of age received a low-unacceptably low nutrition score. No significant association was found.

**Table 11.4 Nutrition knowledge of staff by age.**

<b>Knowledge rating</b>	<b>18-25 years (%)</b>	<b>26-35 years (%)</b>	<b>36-45 years (%)</b>	<b>46-55 years (%)</b>	<b>56-65 years (%)</b>
<b>Unacceptable</b>	12 (40%)	25 (40%)	8 (26%)	4 (27%)	3 (75%)
<b>Low</b>	15 (50%)	28 (44%)	17 (55%)	6 (40%)	1 (25%)
<b>Average</b>	2 (7%)	10 (16%)	6 (19%)	5 (33%)	0
<b>High</b>	1 (3%)	0	0	0	0

### **11.5 Nutrition knowledge by type of staff.**

In the analysis by type of staff, 91 per cent of casual staff achieved a knowledge rating of low-unacceptable, and 81 per cent of permanent staff received this rating. Nineteen per cent of permanent staff and 6 per cent of casual staff achieved an average knowledge rating. A high level of knowledge was achieved by 3 per cent of casual staff and no permanent staff, indicating that staff in group homes, permanent and casual, have a poor knowledge of nutrition.

**Table 11.5 Nutrition knowledge by type of staff.**

<b>Knowledge rating</b>	<b>PERMANENT STAFF (%)</b>	<b>CASUAL STAFF (%)</b>
<b>Unacceptable Level</b>	37 (33%)	15 (47%)
<b>Low Level</b>	53 (48%)	14 (44%)
<b>Average Level</b>	21 (19%)	2 (6%)
<b>High Level</b>	0	1 (3%)

## 11.6 Individual nutrition questions by gender.

The first section of the nutrition quiz consisted of 14 statements which staff members had to mark as true, false or unsure.

Cross tabulation of gender distribution and % of respondents correct for each question is detailed in Table 11.6.

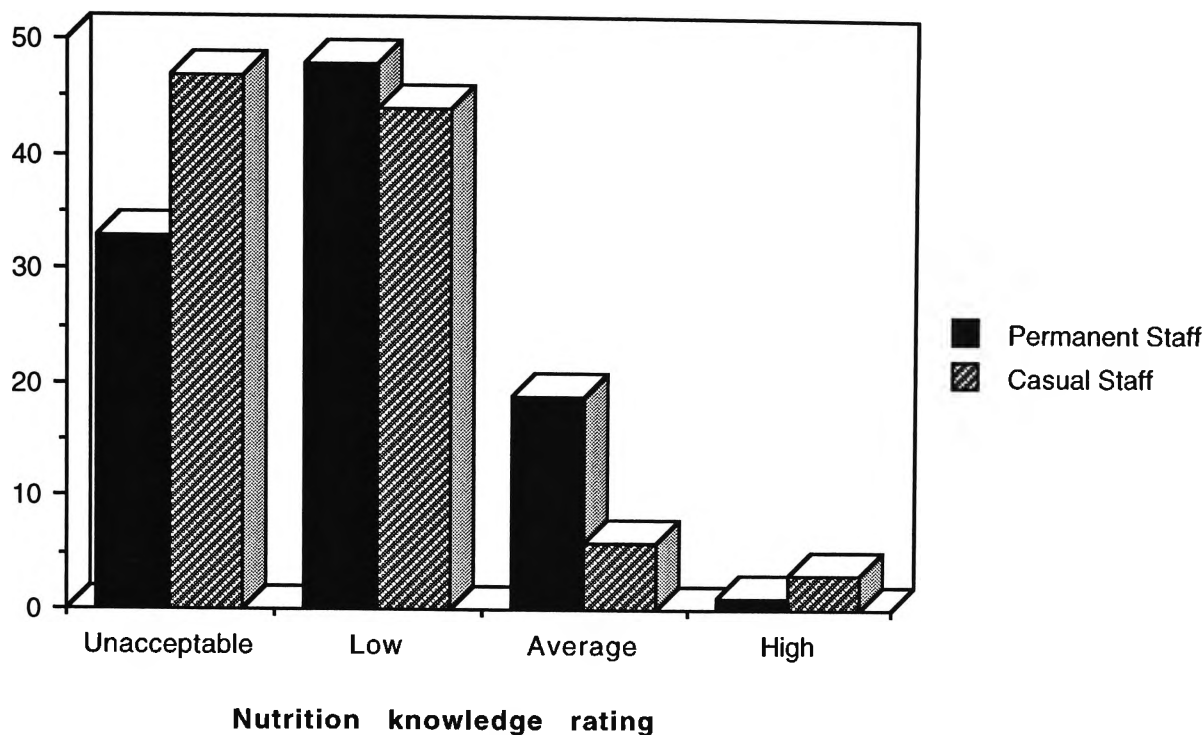
**Table 11.6 Individual nutrition quiz questions by gender: % of respondents correct.**

QUESTION	FEMALE STAFF (%)	MALE STAFF (%)	Total sample correct (%)
Foods labelled 'low cholesterol' are automatically low in fat.	73 (82%)	42 (78%)	115 (80%)
For weight control, bread, rice and pasta should be avoided.	72 (81%)	46 (85%)	118 (83%)
Flavourings such as soy sauce, vegetable salt and garlic salt are good low sodium substitutes for table salt.	44 (49%)	23 (43%)	67 (47%)
Everyone needs to eat meat to ensure an adequate protein intake.	62 (70%)	38 (70%)	100 (70%)
Vegetarian diets are often deficient in Vitamin B12, iron and calcium.	44 (49%)	19 (35%)	63 (44%)



**Table 11.6 Continued.**

<b>QUESTION</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total sample correct (%)</b>
<b>Salmonella food poisoning organisms are most likely to be found in homogenised milk.</b>	62 (70%)	31 (57%)	93 (65%)
<b>People with asthma should avoid dairy foods.</b>	31 (35%)	13 (24%)	44 (31%)
<b>Fruit juice and fruit drinks are much lower in sugar than ordinary soft drinks and cordials.</b>	33 (37%)	22 (41%)	55 (38%)
<b>Meat is a poor source of fibre.</b>	45 (51%)	22 (41%)	67 (47%)
<b>As long as you use polyunsaturated oils and margarines in cooking you can use as much as you like.</b>	86 (97%)	48 (89%)	134 (94%)
<b>The average adult should drink 1.5-2.0 litres of fluid per day.</b>	75 (84%)	43 (80%)	118 (83%)
<b>One way people can cut down on the amount of fat in their diet is to use margarine instead of butter.</b>	68 (76%)	38 (70%)	106 (74%)
<b>The way food is grown and processed today it is essential that diets be supplemented with vitamins and minerals.</b>	65 (73%)	37 (69%)	102 (71%)
<b>To help maintain healthy bones we should have 3 serves of dairy foods per day.</b>	60 (67%)	32 (59%)	92 (64%)



**Figure 10:** Nutrition knowledge rating by type of staff.

### 11.7 Basic nutrition knowledge by the application of nutrition knowledge

The 25 nutrition questions employed within the questionnaire were categorised into (i) basic nutrition knowledge and (ii) application of nutrition knowledge. In the analysis by Sign test a significantly higher median score was found for the basic nutrition knowledge questions when compared with responses to the application of nutrition knowledge questions ( $S = 116$ ;  $n = 143$ ;  $p = 0.01$ ).

Eighty-one per cent of staff achieved a higher score in those questions relating to basic nutrition knowledge than in those questions relating to the application of nutrition knowledge.

## Multiple choice section of nutrition quiz.

Each multiple choice question was first scored as correct or incorrect and then cross-tabulated with gender. There were 12 multiple choice questions used in the questionnaire, however only 11 were used in the analysis as one question was withdrawn due to apparent ambiguity (See Appendix 5 for Nutrition Quiz).

The following questions are those which were poorly answered and/or demonstrated a significant difference between the male and female staff responses, on analysis by the Chi-square test.

### **11.8 Question 56 by gender.**

**Question 56:** How many teaspoons of sugar are there in one (375ml) can of soft drink, such as Coke?

**Answer:** 8 teaspoons.

Fifteen per cent of the total sample chose the correct answer. In the breakdown by gender, female staff chose the correct answer more often than male staff and a significant difference was found ( $\text{Chi}^2 = 4.99$ ; d.f.= 1;  $p=0.045$ ). Interestingly, most respondents chose 12 teaspoons of sugar as their answer.

**Table 11.7 Question 56 by gender.**

<b>Response</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Correct</b>	17 (19%)	4 (7%)	21 (15%)
<b>Incorrect</b>	72 (81%)	50 (93%)	122 (85%)

## 11.9 Question 57 by gender.

**Question 57:** Which contains the least fat?

**Answer:** 200ml low fat milk.

Of the total sample, almost half of the respondents chose the correct answer for this question. In the analysis by gender, just over half of female staff and one-third of male staff chose the correct answer. This difference was found to be significant (  $\chi^2 = 5.066$ ; d.f.= 1;  $p = 0.024$ ). Many respondents chose either the answer 50ml of evaporated milk or unsure.

**Table 11.8 Question 57 by gender.**

<b>Response</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Correct</b>	45 (51%)	17 (31%)	62 (43%)
<b>Incorrect</b>	44 (49%)	37 (69%)	81 (57%)

## 11.10 Question 58 by gender.

**Question 58:** When storing raw meat in the refrigerator it is most important to store it.....

**Answer:** Away from any cooked food.

Fifteen per cent of the total sample chose the correct answer. In the analysis by gender, there was not a significant difference between male and female staff.

**Table 11.9 Question 58 by gender.**

<b>Response</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Correct</b>	15 (17%)	7 (13%)	22 (15%)
<b>Incorrect</b>	74 (83%)	47 (87%)	121 (85%)

### 11.11 Question 62 by gender.

**Question 62:** If a resident was underweight and required additional energy to put on weight, what would be the best choice?

**Answer:** Banana smoothie.

Twenty-one per cent of the total sample chose the correct response. In the breakdown by gender, female staff responded correct more often than male staff, and this difference was found to be significant (  $\text{Chi}^2 = 3.91$ ; d.f.= 1;  $p = 0.047$ ).

**Table 11.10 Question 62 by gender.**

<b>Response</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Correct</b>	20 (22%)	10 (19%)	30 (21%)
<b>Incorrect</b>	69 (78%)	44 (81%)	113 (79%)

## 11.12 Question 63 by gender.

**Question 63:** If a resident wanted to lose weight, which snack food would be the best choice?

**Answer:** Fruit yoghurt.

Half the total sample chose the correct answer. In the analysis by gender, there was no difference between male and female staff and the correct response.

**Table 11.11 Question 63 by gender.**

<b>Response</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Correct</b>	46 (52%)	26 (48%)	72 (51%)
<b>Incorrect</b>	43 (48%)	28 (52%)	71 (49%)

## **CHAPTER TWELVE.**



**SECTION FOUR: FOR THE FUTURE.****12.1 Formal nutrition training by type of staff.**

Staff were asked to indicate whether they had had any formal nutrition training such as courses or seminars. Of the total sample, 70 per cent of all staff reported having no nutrition training.

In the analysis by type of staff, 84 per cent of casual staff and 66 per cent of permanent staff reported having no formal nutrition training.

**Table 12.1 Formal nutrition training by type of staff.**

<b>Formal nutrition training</b>	<b>PERMANENT STAFF (%)</b>	<b>CASUAL STAFF (%)</b>	<b>Total Sample (%)</b>
<b>YES</b>	38 (34%)	5 (16%)	43 (30%)
<b>NO</b>	73 (66%)	27 (84%)	100 (70%)

## 12.2 Do staff need more knowledge about nutrition?

Staff were asked to indicate whether they needed more nutrition knowledge.

Of the total sample, 90 per cent of staff reported that they needed more knowledge about nutrition.

In the breakdown by type of staff, 94 per cent of casual staff and 88 per cent of permanent staff reported their need for more nutrition knowledge. Only 6 per cent of casual staff and 12 per cent of permanent staff said they did not need more nutrition knowledge.

**Table 12.2 Do staff need more knowledge about nutrition?**

<b>Need more knowledge</b>	<b>PERMANENT STAFF (%)</b>	<b>CASUAL STAFF (%)</b>	<b>Total Sample (%)</b>
<b>YES</b>	98 (88%)	30 (94%)	128 (90%)
<b>NO</b>	13 (12%)	2 (6%)	15 (10%)

### **12.3 Important areas of nutrition listed by staff: Healthy eating.**

Staff were asked to list important areas of nutrition that they would like to know more about. The many answers were categorised into (a) healthy eating, (b) dietary constituents and (c) meal planning and preparation.

Within the category 'healthy eating', the 6 topics in Table 12.3 were most frequently listed. Eighteen per cent of staff reported wanting more information about healthy eating, 16 per cent about weight loss, 13 per cent about the Five Food Groups and 12 per cent wanted more information about both healthy snacks and drug and nutrient interactions. A further 11 per cent wanted to know about weight gain.

**Table 12.3 Important areas listed by staff involving healthy eating.**

<b>Nutrition Areas</b>	<b>Number of Staff</b>	<b>Percent</b>
<b>Healthy eating</b>	25	18
<b>Weight loss</b>	23	16
<b>Five food groups</b>	19	13
<b>Healthy snacks</b>	17	12
<b>Drug and nutrient interactions</b>	16	12
<b>Weight gain</b>	15	11

## **12.4 Important areas of nutrition listed by staff: Dietary constituents.**

Within the category 'dietary constituents', the 5 topics in Table 12.4 were most frequently listed. Thirteen per cent of staff reported wanting more information on fat in the diet, 12 per cent on fibre, 11 per cent on vitamins and minerals, 10 per cent on sugar and 9 per cent on fluids and dehydration.

**Table 12.4 Important areas listed by staff involving dietary constituents.**

<b>Important Areas</b>	<b>Number of Staff</b>	<b>Percent</b>
<b>Fat</b>	19	13
<b>Fibre</b>	17	12
<b>Vitamins and minerals</b>	15	11
<b>Sugar</b>	14	10
<b>Fluids</b>	13	9

## **12.5 Important areas of nutrition listed by staff: Meal planning and preparation.**

Within the category 'meal planning and preparation', the 5 topics in Table 12.5 were most frequently listed. Fifteen per cent of staff reported wanting more information about healthy cooking, 14 per cent about healthy recipes, 11 per cent about menu plans, 10 per cent about food preparation and 6 per cent about food storage.

**Table 12.5 Important areas listed by staff involving meal planning and preparation.**

<b>Important areas</b>	<b>Number of staff</b>	<b>Percent</b>
<b>Healthy cooking</b>	22	15
<b>Healthy recipes</b>	20	14
<b>Menu plans</b>	16	11
<b>Food preparation</b>	14	10
<b>Food storage</b>	9	6

## **12.6 Nutrition resources that staff listed as used in group homes.**

Staff were asked to indicate which nutrition resources have been used in their group home. The five nutrition resources listed in Table 12.6 were the most frequently reported, with the knowledge of staff members noted to be a valuable resource in group homes. Nineteen per cent of staff reported their knowledge of nutrition as a nutrition resource. Eight per cent of staff reported liaison with a dietitian, 6 per cent used cook books, 4 per cent reported using common sense and 2 per cent used the Five Food Groups.

**Table 12.6 Nutrition resources that staff listed as used in group homes.**

<b>Nutrition resources</b>	<b>Number of staff</b>	<b>Percent</b>
<b>Knowledge of staff</b>	27	19
<b>Dietitian</b>	11	8
<b>Cook books</b>	9	6
<b>Common sense</b>	6	4
<b>Five food groups</b>	3	2

## **12.7 The need for guidelines about nutrition and meals in group homes by gender.**

Staff were asked to rate the need for guidelines about nutrition and meals in group homes. Of the total sample, 66 per cent of staff reported guidelines to be 'essential'. Only 8 per cent of staff reported that there was 'no need' for guidelines. A further 27 per cent reported that guidelines were 'necessary'.

In the analysis by gender, 67 per cent of female staff and 63 per cent of male staff rated the need for guidelines about nutrition and meals as 'essential'. Eight per cent of female staff and 7 per cent of male staff rated that there was 'no need' for guidelines in group homes. These results indicate that two-thirds of staff, both female and male, rate the need for guidelines about nutrition and meals in group homes as essential.

**Table 12.7 The need for guidelines about nutrition and meals in group homes by gender.**

<b>Rating of the need for guidelines</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>No Need</b>	7 (8%)	4 (7%)	11 (8%)
<b>Necessary</b>	22 (25%)	16 (30%)	38 (26%)
<b>Essential</b>	60 (67%)	34 (63%)	94 (66%)

## 12.8 Nutrition as part of core training by type of staff.

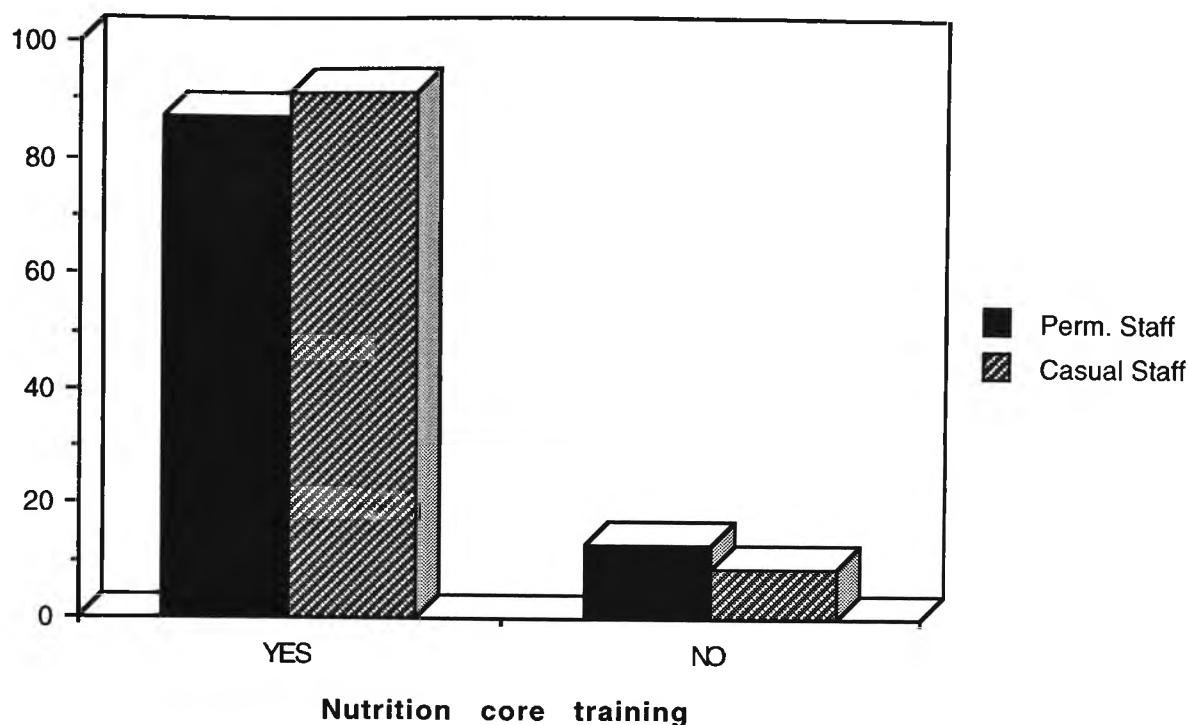
Staff were asked to indicate whether nutrition should be part of core training. Of the total sample, 88 per cent of staff reported that nutrition should be part of core training, with 12 per cent indicating that it should not.

In the analysis by type of staff, a large proportion of both casual and permanent, 91 per cent and 87 per cent respectively, indicated that nutrition should be part of core training. Thirteen per cent of permanent staff and 9 per cent of casual staff reported that it should not be part of core training. The data indicates that staff would like nutrition to be part of core training.

**Table 12.8 Nutrition as part of core training by type of staff.**

<b>Nutrition core training</b>	<b>PERMANENT STAFF (%)</b>	<b>CASUAL STAFF (%)</b>	<b>Total Sample (%)</b>
<b>YES</b>	97 (87%)	29 (91%)	126 (88%)
<b>NO</b>	14 (13%)	3 (9%)	17 (12%)





**Figure 11:** Nutrition as part of core training by type of staff.

## 12.9 Most effective methods of training staff by gender.

Staff were asked to rank, from 1-3, the most effective methods of training staff in nutrition. The data indicates that a consultant dietitian is seen as the most effective method of training staff in nutrition. Forty-two per cent of staff reported the consultant dietitian as most effective, 21 per cent ranked core training, and 15 per cent ranked 1-day workshops as the most effective methods of training staff in nutrition.

In the analysis by gender, 45 per cent of male staff and 38 per cent of female staff chose a consultant dietitian, 19 per cent of male staff and 23 per cent of female staff chose core training and 16 per cent of male staff and 15 per cent of female staff chose 1-day workshops as the most effective methods of training.

**Table 12.9      Most effective method of training staff by gender.**

<b>Method of training</b>	<b>FEMALE STAFF (%)</b>	<b>MALE STAFF (%)</b>	<b>Total Sample (%)</b>
<b>Consultant dietitian</b>	34 (38%)	25 (45%)	59 (42%)
<b>Core training</b>	20 (23%)	10 (19%)	30 (21%)
<b>1 day workshops</b>	13 (15%)	9 (16%)	22 (15%)
<b>Suggested guidelines</b>	9 (10%)	5 (9%)	14 (10%)
<b>Inservice training day</b>	9 (10%)	3 (6%)	12 (8%)
<b>Departmental policy manual</b>	4 (5%)	2 (4%)	6 (4%)

## **12.10 Useful food and nutrition topics.**

Staff were asked to rank which food and nutrition topics they felt would be useful in training. Of the total sample of staff, 95 per cent reported general healthy nutrition to be a useful topic. Sixty-two per cent of staff indicated that menu planning was a useful topic, 49 per cent of staff reported drug and nutrient interactions, 33 per cent reported weight loss and 18 per cent reported food storage as useful topics for training.

In the breakdown by first, second and third choice, the trend was similar to the total sample. Eighty per cent of staff ranked general healthy nutrition as their first choice of food and nutrition topics, dominating all other topics. Menu planning was the topic most commonly ranked second with 37 per cent of staff reporting it to be a useful topic. A further 19 per cent chose drug and nutrient interactions and 16 per cent weight loss, as their second choice. Twenty-four per cent of staff ranked drug and nutrient interactions as their third choice, with 20 per cent choosing menu planning and 13 per cent choosing weight loss.

**Table 12.10 Useful food and nutrition topics.**

<b>Food and nutrition topics</b>	<b>1st Choice (%)</b>	<b>2nd Choice (%)</b>	<b>3rd Choice (%)</b>	<b>Total Sample (%)</b>
<b>General healthy nutrition</b>	113 (80%)	17 (12%)	6 (4%)	136 (95%)
<b>Menu planning</b>	7 (5%)	53 (37%)	29 (20%)	89 (62%)
<b>Drug and nutrient interactions</b>	10 (7%)	27 (19%)	33 (24%)	70 (49%)
<b>Weight loss</b>	6 (4%)	23 (16%)	18 (13%)	47 (33%)
<b>Food storage</b>	2 (1%)	6 (4%)	18 (13%)	26 (18%)
<b>Food safety</b>	3 (2%)	4 (3%)	14 (10%)	21 (15%)
<b>Food purchasing</b>	2 (1%)	8 (6%)	11 (8%)	21 (15%)
<b>Diabetes</b>	0	3 (2%)	6 (4%)	9 (6%)
<b>Heart disease</b>	0	2 (1%)	6 (4%)	8 (6%)

(multiple responses possible)

## **CHAPTER THIRTEEN.**

## **RESULTS.**

### **TESTS OF RELATIONSHIPS BETWEEN VARIABLES.**

#### **Analysis of relationships based on the nutrition quiz.**

The nutrition quiz consisted of 25 questions which were marked correct or incorrect and converted to a percentage correct score. The following tests will involve either percentage correct score or the standardised nutrition score for the analysis of nutrition knowledge of group home staff.

#### **13.1 Percentage correct score by gender.**

When comparing male and female staff by their percentage correct score in the nutrition quiz, a significant difference was found ( $t= 2.58$ ;  $d.f.= 141$ ;  $p= 0.0108$ ). The mean nutrition score for male staff was 59 ( $s.d.= 1.74$ ) and for female staff was 65 ( $s.d.= 1.35$ ), indicating that female staff on average, had scores which were 6 percentage points higher, in the nutrition quiz than male staff.

**Table 13.1 Percentage correct score by gender.**

<b>Gender</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>Female staff</b>	89	65	1.35
<b>Male staff</b>	54	59	1.74

These mean % scores indicate that, on average, female staff have a low level of nutrition knowledge and that male staff have an unacceptably low level of nutrition knowledge, based on the nutrition knowledge assessment scale in Table 11.2.

### **13.2 Percentage correct score by type of staff.**

When comparing permanent and casual staff by their percentage correct score in the nutrition quiz, a significant difference was found (  $t = 2.109$ ;  $d.f. = 141$ ;  $p = 0.0367$ ). The mean nutrition score for casual staff was 58 (s.d.= 2.26) and for permanent staff was 64 (s.d.= 1.21), indicating that permanent staff on average, had scores which were 6 percentage points higher, in the nutrition quiz than casual staff.

**Table 13.2 Percentage correct score by type of staff.**

<b>Type of Staff</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>Permanent staff</b>	111	64	1.21
<b>Casual staff</b>	32	58	2.26

These mean % scores indicate that, on average, permanent staff have a low level of nutrition knowledge and that casual staff have an unacceptably low level of nutrition knowledge, based on the nutrition knowledge assessment scale in Table 11.2.

### **13.3 Percentage correct score by length of time that staff have worked in group homes.**

For this analysis the categories included 3 years or less, 4-6 years and 7 years or more. When these 3 categories were compared, using the percentage correct score, a significant difference was found (ANOVA; d.f.=2; p= 0.0251).

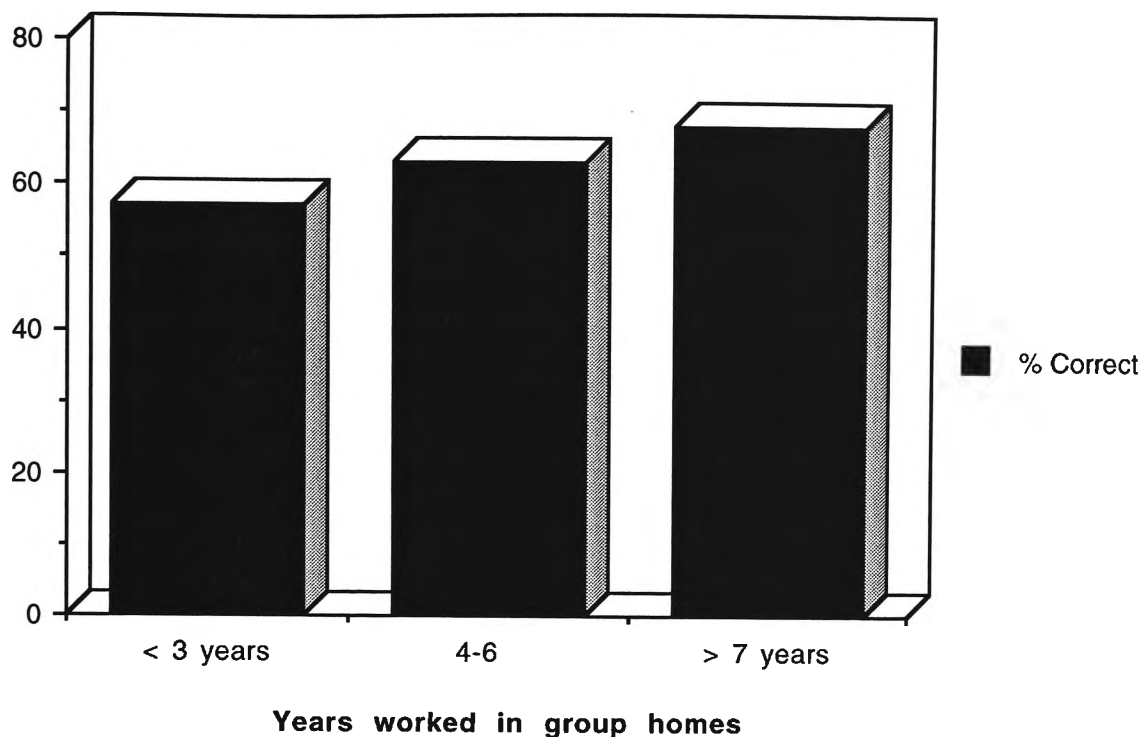
In general, the longer that staff have worked in group homes, the higher their mean percentage correct score. Staff who indicated that they have worked in group homes for 3 years or less had a mean nutrition score of 60 (s.d. = 1.62), those who have worked in group homes for 4-6 years had a mean nutrition score of 64 (s.d. = 1.88) and those who have worked in group homes for 7 years or more had a mean nutrition score of 66 (s.d. = 2.16).

**Table 13.3 Percentage correct score by length of time that staff have worked in group homes.**

<b>Years worked</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>3 years or less</b>	62	60	1.62
<b>4-6 years</b>	46	64	1.88
<b>7 years or more</b>	35	66	2.16

These mean % scores indicate that, on average, staff who have worked 3 years or less have an unacceptably low level of nutrition knowledge, and that staff who have worked 4 years or more in group homes have a low level of nutrition knowledge, based on the nutrition knowledge assessment scale in Table 11.2.





**Figure 12:** Mean percent correct by the number of years worked in group homes.

#### 13.4 Percentage correct score by formal nutrition training.

Staff were asked to indicate whether they have had any formal nutrition training. The percentage correct scores for those who replied "YES" were compared with the scores for those who replied "NO" and a significant difference was found ( $t= 2.538$ ;  $d.f.= 141$ ;  $p= 0.0122$ ).

This result showed that staff with formal nutrition training had a higher mean per cent score in the nutrition quiz, than the staff who responded that they had no formal nutrition training. Staff with formal nutrition training achieved a mean nutrition score of 67 (s.d.= 1.93) whereas the staff without training achieved a mean nutrition score of 60 (s.d.= 1.27).

**Table 13.4 Percentage correct score by formal nutrition training.**

<b>Nutrition training</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>YES</b>	43	67	1.93
<b>NO</b>	100	60	1.27

### **13.5 Percentage correct scores by the need for more nutrition knowledge.**

Staff were asked to indicate whether they needed more nutrition knowledge. The percentage correct scores of those who answered "YES" were compared with the scores of those who answered "NO" and a significant difference was found ( $t= 2.236$ ;  $d.f.= 141$ ;  $p= 0.0269$ ).

Interestingly, the staff that responded that they did not require any further nutrition knowledge scored a significantly lower nutrition quiz score than did the staff that requested further nutrition knowledge. The mean score of staff who reported not needing further nutrition knowledge was 56 ( $s.d.= 3.29$ ) and the mean score for staff who reported needing further nutrition knowledge was 63 ( $s.d.= 1.12$ ). Hence staff requesting further nutrition knowledge had on average scores which were 7 percentage points higher than those who reported not needing nutrition knowledge.

**Table 13.5 Percentage correct scores by the need for more nutrition knowledge.**

<b>Further nutrition knowledge</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>YES</b>	128	63	1.12
<b>NO</b>	15	56	3.29

### **13.6 Percentage correct scores by the role of teaching to cook.**

Staff were asked to indicate whether they had the role of teaching residents to cook. The percentage correct scores of those who answered "YES" were compared with the scores of those who answered "NO" and a significant difference was found ( $t= 2.287$ ;  $d.f.= 141$ ;  $p= 0.0236$ ).

Interestingly, the staff that responded that they did teach residents to cook had a higher mean score for the nutrition quiz than the staff who said they did not have the role to cook. The mean nutrition score of staff who reported that they do teach residents to cook was 65 (s.d.= 1.44) and the mean nutrition score of staff who reported that they did not teach cooking was 60 (s.d.= 1.58). Hence staff who had the role of teaching residents how to cook had, on average, scores which are 5 percentage points higher, than those who reported not teaching to cook.

**Table 13.6 Percentage correct scores by the role to cook.**

<b>Role to cook</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>YES</b>	78	65	1.44
<b>NO</b>	65	60	1.58

These mean % scores indicate that, on average, staff who do not have the role to teach cooking have an unacceptably low level of nutrition knowledge, and staff that do have the role had a low level of nutrition knowledge, based on the nutrition knowledge assessment scale in Table 11.2.

### **13.7 Percentage correct scores by the need for guidelines about nutrition and meals in group homes.**

Staff were asked to rank the need for guidelines about nutrition and meals from No Need to Essential. The percentage correct scores of those who answered "YES" were compared with the scores of those who answered "NO" and a significant difference was found ( $t=1.985$ ;  $d.f.= 141$ ;  $p= 0.049$ ).

The staff members who indicated that there was 'No Need' for guidelines had a lower nutrition knowledge than those that indicated that guidelines were 'Essential'.

**Table 13.7 Percentage correct scores by the need for guidelines about nutrition and meals in group homes.**

<b>Level of need</b>	<b>Number of staff</b>	<b>Mean % correct</b>	<b>Standard deviation (s.d.)</b>
<b>No need</b>	11	55	3.87
<b>Essential</b>	132	64	1.11

## **CHAPTER FOURTEEN.**

### **14.1 Sample demographics.**

#### **14.1.1 Response rate.**

A total of 300 questionnaires were distributed to 20 group homes in the Warringah Area. A 70 per cent response rate was achieved. However the exact number of staff working in group homes varies constantly and could not be specified at the time the questionnaires were distributed. It is uncertain whether every person of the estimated 205 staff members received a questionnaire. The total of 205 staff members was based on the fact that 7.15 FTE (full time equivalent) staff per house are permanent staff and that a pool of casual staff ranging from 40-100 people can be utilised at any one time. At the time of this study, casual staff were limited in number (Personal communication with the Area Manager, John Gavaghan).

The response rate may have been influenced by factors independent of this study. First, another questionnaire was being distributed simultaneously, on a different topic, and was due at the same time. Interestingly it asked that only permanent staff complete the questionnaire. Hence confusion could have resulted from its instructions, leading to casual staff not completing the questionnaire for this research. Alternately, the multiplicity of questionnaires may have discouraged staff from completing and returning the questionnaire. However the response rate was high and may be assumed to be indicative of the staffs' interest in the area of nutrition and their concern for the residents' care.

More than three-quarters of permanent staff completed the questionnaire, which was very encouraging. In regards to casual staff, nearly half of the estimated sample returned the questionnaire, which was a good response, considering the limited numbers of staff and the opposing factors to the questionnaire's completion.

Misinterpretation of the term 'casual staff' may have occurred. In terms of this research, casual was meant to incorporate the staff who work on a 'relief' basis, not those who work part-time with rostered hours of work.

An additional concern regarding casual staff is the variation in their role of responsibility in the care of residents. Permanent staff work in only one group home and focus their care specifically on the needs of those residents, however casual staff work in a number of group homes. Hence the awareness of casual staff to the issues in each group home and their responsibility for the care of clients is disseminated and diffused amongst various houses. Therefore the importance casual staff place on filling in this questionnaire may be different to permanent staff.

#### **14.1.2 Age of staff members.**

Age is an important factor to consider when assessing knowledge. In the Warringah Area casual staff were significantly younger than permanent staff, with casual staff achieving a lower nutrition score than permanent staff. These results indicate that as the age of staff members increases, so does their mean nutrition scores. This finding highlights the need for education strategies to be aimed at younger staff so that they can develop their nutrition skills and their role in nutrition provision within the group home setting.



### **14.1.3 Gender of staff members.**

Nearly two-thirds of the total sample are female. Both permanent and casual staff groups were largely female. Female staff commanded not only higher response rates, but also higher nutrition scores and nutrition skills. These results emphasise the importance of equity in nutrition education. Both male and female staff have the same role in providing care for people with developmental disabilities living in group homes, however they do not seem to have the same knowledge and skills in nutrition.

### **14.1.4 Length of time that staff have worked in group homes.**

Female staff reported that they have worked in group homes for a longer period of time than male staff. Nearly half of male staff indicated that they had worked in group homes for 1-3 years whereas nearly one-third of female staff reported working in each of the following time categories: 1-3 years, 4-6 years and 7-9 years.

### **14.1.5 Number of residents in each type of group home.**

Within the Warringah Area there are 15 permanent residential and 5 respite care houses. Of the permanent residential houses, 10 have 4 residents per house, 4 have 5 residents per house and 1 has 2 residents per house. All respite care houses in the Warringah Area accommodate 5 residents, however 40 residents may reside there over time.

## **14.2 Discussion of results: Staffs' knowledge of nutrition.**

The purpose of the present study was to determine nutrition knowledge among staff of group homes, and whether nutrition education for staff in group homes is required.

The results of this study confirmed that there is a great need for nutrition knowledge and, hence, education for staff of group homes. Furthermore staff reported that they need nutrition knowledge. Hence this research was able to address the most effective methods of nutrition training, as perceived by staff, and the areas in which staff want more knowledge.

People with developmental disabilities are at increased nutritional risk due to often complex and comprehensive nutrition problems. Within the Warringah Area, the high dependence of residents and hence their reliance on staff being knowledgeable regarding their care, raises doubts over the quality of nutrition care being delivered. If staff do not have the knowledge, they cannot adequately assist residents in maintaining their nutritional status and overall health.

The results of this research strongly support the need for nutrition education within group homes, considering 83 per cent of staff received a low-unacceptably low result from the nutrition quiz, and 90 per cent reported needing more nutrition knowledge. Male casual staff reported the lowest scores with female staff having a higher mean score than male staff and permanent staff having a higher mean score than casual staff. Furthermore, 81  
p e r                      c e n t                      o f                      s t a f f

achieved a significantly higher score in those questions relating to basic nutrition knowledge compared with those questions relating to the application of nutrition knowledge. Hence staff demonstrated that they knew basic nutrition knowledge but could not apply it. These findings were reinforced by a staff member who said " staff need to have good nutrition knowledge in order to assist the consumer- it is amazing how little some people know!".

The nutrition quiz was designed so that the questions were relevant to the group home environment and the common nutrition problems associated with developmental disability. When assessing which questions were poorly answered, it was found that staff knew basic nutrition principles however they could not apply them. This was a major finding which in turn could influence all other factors in the provision of nutrition care for people with developmental disabilities. For example 98 per cent of staff indicated that for maximum health it is good to eat regular meals from the Five Food Groups, however many could not correctly choose the best snack food for a resident who wanted to lose weight. Hence these results both support the need for nutrition education of staff, and that education be specifically tailored and oriented towards the provision of care for people with developmental disabilities.

Other areas which were poorly answered within the quiz were food storage and hygiene and also staffs' awareness of food product composition and food labelling. These results raise concern regarding the role that staff have in teaching residents to cook and shop, if they have poor knowledge of hygiene and food products, considering that 55 per cent of staff reported having the role to teach cooking, and 49 per cent have the role to teach shopping.

Interestingly, staff who reported having the role of teaching cooking had a significantly higher mean score in the nutrition quiz than staff who reported not having to teach cooking. However the mean score was still only categorised as a low level of nutrition knowledge. One staff member commented that " many young staff in group homes have no idea about how to cook or plan healthy nutritious meals, and this needs to be addressed". Therefore staff are noticing the inequity of knowledge and hence care being given to residents with regard to nutrition provision.

The importance of having applicable and relevant nutrition education was reinforced by the nutrition scores of the staff who reported having formal nutrition training. Only 30 per cent of staff in the Warringah Area responded that they have completed other nutrition training, however their nutrition quiz scores, although significantly higher than the staff without training, still only rated in the low level of nutrition knowledge. Hence having undertaken nutrition training was associated with higher nutrition scores, although the results were still unsatisfactory. General nutrition training may not be enough for the provision of adequate nutrition care in group homes. The central point is the relevance of material that is to be taught. Nutrition training must specifically relate to people with developmental disabilities and their unique problems. Training is not beneficial if it cannot be applied and reinforced in the work environment.

This study found a significant difference between the nutrition score achieved by permanent staff in comparison to casual staff. Although the mean scores for both types of staff were still rated in the low-unacceptably low categories, permanent staff rated significantly higher than did casual.

Permanent staff were shown to be more likely to work with residents over a longer period of time than casual staff, and achieve a higher score in the nutrition quiz. However casual staff still have a large role in the care of residents and in meeting their needs. In fact, casual staff have the same job as permanent staff with regards to the provision of care. However only permanent staff have the opportunity for training that is organised and funded by the Department of Community Services. Casual staff have no avenue through their employment for gaining further knowledge. The quality of care of residents is thus influenced by the employment status of residential staff, ie. permanent or casual.

Meeting the needs of all residents necessitates being informed of their special dietary requirements. The majority of staff reported that they were informed of residents dietary needs. The House Manager, client information file and other staff were rated as the most common sources of gaining information regarding dietary requirements, with parents also informing staff. The major factor to consider regarding staff being informed, is that those providing the information may not have a good understanding of the nutrition problem, and hence may give misleading or incorrect advice for others to follow. This can be reinforced by a staff member who commented that " most staff have some knowledge of what constitutes a healthy balanced diet and get advice from more experienced staff on the needs of the consumer if they don't know". This comment highlights the need for correct information to be given to all staff so that misinterpretation and/or lack of awareness of the problem does not occur. Additionally the ability of staff to apply the information, or simply know what to do, in the residential setting may not be sufficient. Therefore meeting the needs of the residents may be a comprehensive process involving all staff in the understanding of the practical issues linked to the residents' nutrition care.

The need for appropriate nutrition training that grasps the issues commonly dealt with in the residential care setting was highlighted when staff reported which nutrition problems were present in their group home. The six most frequently reported nutrition problems in the Warringah Area were overweight, refusal to eat certain foods, constipation, excessive appetite, poor appetite, and the need for puree foods.

Group homes within the Warringah Area now house the multiply physically handicapped people that were once institutionalised at Collaroy Hospital. The high frequency of constipation and the need for puree foods may reflect their status and high dependency. However this may not represent the frequency of nutrition problems in other Areas/Regions.

Although these problems may seem simple to treat individually, they rarely occur without other complicating factors or problems. Often these issues are compounded by the presence of cerebral palsy, Prader-Willi Syndrome, Downs Syndrome, feeding difficulties and various drug interactions. For the health professional, such as a dietitian, these problems may be complex, however for the residential care staff, who may only have general nutrition knowledge, bewilderment on how to deal with these complicating situations may be common. Furthermore without nutrition expertise, staff may not be able to identify or assess nutrition problems which can be detrimental to residents' health.

Staff members are in a position to observe any changes in residents health, or long standing conditions, which indicate or contribute to nutritional problems. These may be changes in physical appearance, certain emotional conditions and eating habits. Monitoring factors such as these will aid general practitioners and dietitians in their professional assessment of the residents'

health and nutritional status, allowing for appropriate advice and implementation of special procedures, if necessary. Therefore this highlights the need for staff to be aware of what to look for and the types of changes that can occur when monitoring and assessing developing nutrition problems.

The high incidence of obesity has been recognised as a health problem amongst people with developmental disabilities. In this study of the Warringah Area, over three-quarters of staff reported that residents in their group home were overweight. The causes of obesity are multi-faceted, in fact Rimmer et. al. (1993) suggest that living in a group home plays a significant role in the obesity rates of people with developmental disability. Considering this research is based in group homes, it may confirm what Rimmer et. al. suggest, however due to the lack of an extensive dietary analysis, this cannot be assumed. However a large proportion of staff did report overweight residents, therefore this health risk should be addressed.

An important dilemma for staff in their desire to help residents who are overweight is the issue of duty of care versus freedom of choice. If, for example, a resident refuses to eat low fat foods and only wants take-away/convenience foods each day, to what point can the staff member assert their duty of care and limit a resident's intake of convenience food. The situation in this example would not be improved by staff members knowing how to write a menu plan or shop for low fat foods because the staff and the resident must negotiate appropriate behaviours and decide where duty of care and resident's freedom of choice intersect. Therefore part of the training in nutrition knowledge should involve conflict resolution and the importance of negotiating health goals and concerns with the residents.

Obviously not all residents will object to low fat foods and so the presence of overweight residents may signal that staff are not aware of how to encourage weight loss and deal with the surrounding issues of writing menu plans, changing shopping lists and adapting cooking techniques. Furthermore

there may be the encompassing factors associated with people with developmental disability such as behavioural, physical and emotional changes that staff may have to overcome. These nutrition concerns require individual assessment and cannot be dealt with by reading a manual. Hence the nutrition knowledge that staff need in this situation is to first seek professional advice. Following that, they can then learn how to apply menu plans, low fat cooking hints and so on in the group home environment.

Feeding problems that result in inadequate energy and nutrient intake often place the individual at increased nutritional risk. More than two-thirds of staff reported that residents refused to eat certain foods, nearly half of staff reported that residents have a poor appetite, and almost one-quarter of staff reported that residents suffered reflux/regurgitation. These various forms of feeding problems all impact nutritional status.

This research indicates the prominence of feeding problems within the Warringah Area, as reported by staff. These problems are often accepted as part of a persons' disability, as stated by Wodarski (1990), when in fact they can be improved or treated. These problems are often multi-faceted with the feeding difficulties sometimes being the outlet of behavioural disturbances or simply a manifestation of a physical disability. Therefore staff need to be monitoring the eating patterns and nutritional status of the residents, to ensure adequate intake of food and fluids, and that behaviours are not changing or worsening, to the detriment of a residents health.



More than half of staff reported that residents had constipation. This confirms the view of Capra and Hannan-Jones (1992) that poor bowel functioning and chronic constipation are well documented problems in persons with developmental disabilities. For residents who live in group homes there is the tendency to follow 'western -style' diets. The combination of low fibre, high fat foods, with low oral fluid intake predispose residents to constipation. However, with the compounding factors of poor muscle tone and structural problems of the gastrointestinal tract, chronic constipation has led to the use and reliance of suppositories and enemas. Increasing the nutrition knowledge of staff regarding the important role that diet has in the treatment of constipation may result in a decrease in the use of bowel stimulants and also result in the provision of a healthier diet with adequate fluids.

Staff raised some important issues that may have to be confronted when considering healthy diets in the group home. One of the comments was that "staff often buy food they like as they (staff) often eat two meals on a shift. This is not always in the best interest of the clients". Another point of interest when considering residents' eating habits was that "clients are victims to staffs' own food problems ie cakes, biscuits, chocolate. Rewarding with food is used too often". One staff member commented that "there should be some supervision regarding the food bought and prepared for these people". Some of these issues are obviously long-standing and require appropriate attention. The guiding principle must be the rights and the needs of the residents.

One area which needs to be addressed is the wants of the residents. Although their health is a priority, they have the right to choose what to eat, if they are able. Staff members reported this as a concern to them. These comments embody the concern " some clients prefer 'junk food'. It is difficult to establish and maintain a good balance. Not because of a lack of variety in the home but simply because of the preference of the resident" also " many consumers tend to overeat and have little idea about what is healthy and unhealthy, but continue to eat it because they like it". Another concern voiced was that " some staff are vegetarian and only cook for their own liking" which may mean that residents are missing out on nutrients that they need, but also may not allow the resident to choose the type of meals they want. Therefore staff not only requested to know more about nutrition and its impact on health, but also to know how to address the issues surrounding residents' rights.

The question of whether residents are receiving appropriate nutrition care based on their needs was assessed by the presence of specific diets within group homes, in view of the nutrition problems indicated. The most frequently reported diets were low-fat, high fibre and pureed food diets. However the number of staff who reported the associated nutrition problems of overweight, constipation and the need for puree foods did not correlate with the number of diets. This could be taken to mean that residents may not be receiving appropriate nutrition care. This may be due to a lack of assessment procedures to determine their health care requirements or that their care plans are not being carried out.

Furthermore it may mean that staff are not being informed of the dietary regimen supposedly in practice. Whatever the situation, a difficulty lies in the fact that staff may not be able to cater for many of the diets prescribed for residents, unless appropriate education regarding the diet and how to plan and prepare for it is provided. Therefore the role of the dietitian is critical, as they must have understanding of the staffs' abilities, and the group home environment, before any nutrition care plans can be successfully executed.

To ascertain how staff have dealt with nutrition problems within their group home, the nutrition resources that they use were listed. Interestingly the most frequently reported resource was the knowledge of staff members. This raises an important point, considering the majority of staff achieved a low-unacceptably low level of nutrition knowledge. The nutrition knowledge that staff exhibited may be sufficient to deal with many of the problems they face in the residential setting, but is the health of the residents' being compromised due to staff not having any reliable sources of material to refer to or training to rely on? The essence of this argument is that staff must be able to judge when the needs of residents are not being met and when their health is being compromised. It is not their job to deliver and execute nutrition assessments, based on their limited knowledge, but rather to seek professional advice.

Other nutrition resources that staff reported were consultation with a dietitian (8 per cent), cook books (6 per cent) and the Five Food Groups (2 per cent). These results indicate that guidance for staff regarding nutrition issues is limited, and that the use of nutrition resources by group homes is poor.

With staff achieving such a poor result in the nutrition quiz, especially male casual staff, there is doubt as to whether residents are achieving optimal nutrition care. Ninety-seven per cent of staff reported that they prepare and cook all meals for all the residents. This signifies a high level of dependence by residents in the Warringah Area. This dependence means that residents are completely reliant on the knowledge of staff to provide them with adequate and nutritionally appropriate meals. One staff member wrote "clients cannot communicate their preferences for food, therefore responsibility for proper nutrition, menus, amounts of food etc., is all upon the staff. Some guidance would be useful". This comment highlights the need of the residents and their reliance on all staff, but it also reinforces the need of staff to have suitable and sufficient knowledge to care for these residents. Doubt over the adequacy of current practice emphasises the possible inequity in the care system for persons with a developmental disability.

Nutritional status can be assessed by routinely monitoring the body weight of residents. Nearly two-thirds of staff reported that body weight was measured in their group home, however only 60 per cent of those staff reported that all residents were weighed. Additionally body weight was monitored more frequently in residents who were overweight than those that were underweight.

This is an important point. Staff need to be alerted to the misconceptions surrounding underweight residents. Cultural norms that accept underweight as normal, may in fact be compromising the health of the resident if their weight is not monitored for fluctuations and/or continuing losses. The pressure by society and the media that focuses on people who are overweight does build barriers regarding acceptance as well as emphasise health concerns.

However these concerns are just as important in underweight people and therefore monitoring of all residents is essential when assessing nutritional status. Hence this research confirms the view of Pesce (1989) who commented that under-nutrition and poor growth, that is common to people with developmental disabilities is considered normal and accepted, allowing major deviations from the norm to be tolerated.

These results agree with Lindeman's (1991) concern when regarding the nutrition knowledge of staff and their ability to assess residents needs and execute diets adequately to attain and maintain nutritional status. Not only do the results of this report strongly indicate that nutrition education is important for staff to provide quality nutrition care, but staff themselves reported wanting more knowledge in this area, and were agreeable to attend training sessions, as appropriate.

The high response rate of the questionnaire may be indicative of staff interest in this area. However staff in NSW have no appropriate training courses available that incorporate nutrition integrally. Without services such as a consultant dietitian, or training sessions, poor nutrition knowledge of staff with regards to developmental disability and its application in the group home setting continue.

What must be emphasised is that even if staff wanted to increase their knowledge, specifically concerning developmental disability, there is limited resources, educational materials or training for them to use or benefit from.

Hence it is not that staff are negligent or that they are not willing to learn about nutrition (considering 90 per cent wanted to), it is the lack of opportunity. Therefore it is fundamental that the NSW Department of Community Services recognises this need. Presently deficits in nutrition knowledge are likely to result in significant barriers inhibiting quality health care. These barriers can be reduced by the implementation of specific and appropriate training strategies.

### **14.3 Discussion of results: Nutrition skills of staff.**

Staffs' ability to meet the nutritional needs of residents is not addressed in the employment process. In fact the employment process does not establish what skills, if any, staff may have regarding areas such as food shopping, menu planning or cooking meals. There is no mention of the need for nutrition skills within their job description. Nutrition care is presumably assumed, with no assessment to measure staff knowledge or abilities with respect to nutrition care. Hence staff, if they do not have nutrition skills, must acquire them after employment. However there are no avenues of training available. Therefore it is essential that priority is given to the development of appropriate training strategies that address these nutrition issues. Criteria also need to be established whereby these skills can be assessed and developed.

Staff skills in food shopping, menu planning and cooking meals are of fundamental importance if quality nutrition care is to be achieved by residents. Sixty per cent of staff rated their skills as excellent in these three areas, with females rating themselves higher in all areas. Nearly two-thirds of male staff reported having poor-average skills in menu planning, and one-half of male staff reported having poor-average skills in cooking meals, indicating that they are not confident in these skills. Overall, female staff rated themselves with better skills more often than male staff, and also achieved significantly higher scores in the nutrition quiz. This raises the question of whether educational strategies and training should be aimed at specific groups such as male staff and their increasing role in the provision of nutrition care in group homes. Enhancement of staff knowledge regarding these areas may increase their confidence and hence their skills.

#### **14.4 Discussion of results: Attitudes of staff towards nutrition.**

The attitudes of staff towards nutrition and its importance in the group home setting provide insight into what they consider important for nutrition. Many staff had very strong views. Menu planning and food budgeting were not rated as important, however the nutrition content of meals and the residents' dietary needs were rated by more than 75 per cent of staff to be very important. Similarly the taste and variety of meals was rated by the majority of staff to be very important. These data indicate that staff attitudes towards nutrition are predominantly focused upon the actual meal and food itself, and not on the preparation of the food or the allocation of the budget to purchase the food. Hence staff count nutrition content of meals as important but have no concept of how it arrives.

Interestingly, the texture and appearance of meals was rated significantly different by male and female staff, with male staff rating both issues of less importance than female staff. This indicates that staff give importance to the meal itself, disregarding the associated and related factors surrounding its provision.

Attitudes are influential when considering the responsibility staff have in providing healthy meals. If staff have the attitude that nutrition content of meals is important, then their attention will be drawn to it. However, if staff do not feel food budgeting is important, then its benefits will not be considered. The point is that the attitudes that staff may have towards the various facets of nutrition must also be understood. This understanding will allow facilitators in training to focus on the areas where staff have indifferent attitudes.



Without this insight, the information being taught will be seen as irrelevant by staff members, and hence not remembered or utilised within the group home. Therefore the importance of how information relates to staffs' experiences and their attitudes, as well as its relevance, are the critical factors to take into account when training staff in nutrition. Presently there is no departmental policy regarding nutrition in group homes. Thus failure of the Department to recognise the need for such policy does not emphasise to staff the importance of nutrition and the priority it must have in each residents, care.

Staff members commented that "it is most important to have knowledge of nutrition. I consider it a priority in these homes" and that "residents in group homes all have different needs", therefore " it is preferable to have as much knowledge in this area as possible". They also showed how food is important and enjoyable in the group home "they love to eat. It is one of the few things that can be seen as truly satisfying. Don't just give them sausages, fill their plate with variety." Hence staff acknowledge the role food plays in the health and well-being of the residents and this was summed up by a staff member who commented that " awareness of nutrition is most important for these residents and studies such as this one increase our awareness of this. We need to be aware of food affecting health, behaviour, moods and general well-being, if we are to help these residents and their quality of life". Staff reported that there is a need for nutrition knowledge in group homes. It is now a matter of establishing the methods to meet this need.

## **14.5 Discussion of results: Staff training in nutrition.**

Staff training is the key factor ensuring the provision of nutrition care in the residential setting. Importantly though, the training must be relevant and applicable to the situations staff encounter where they work. This study identified both the methods of training and the topics of interest that staff reported to be effective and necessary.

Nearly half of all staff reported that a consultant dietitian would be the most effective method of training in nutrition, with core training, 1-day workshops and suggested guidelines also listed as effective. It could be assumed that staff chose the consultant dietitian as effective due to the emphasis on individual nutrition care. Core training, 1-day workshops and suggested guidelines provide an overall view for learning basic nutrition knowledge. A staff member commented that " a one-day workshop on nutrition would be a great idea for staff induction". This comment raises an important point, that staff must have some nutrition knowledge before commencing work in group homes, therefore it is a matter of focusing, directing and applying this knowledge to the residents individually. However staff inability to do this was one of the problems raised from the nutrition quiz, and mentioned in their comments.

Residential care staff are generally not qualified in identifying and assessing nutrition problems, hence the importance of professional dietetic involvement in conjunction with nutrition education methods such as core training, 1-day workshops and suggested guidelines. For example, a consultant dietitian can benefit all staff by providing information that is available to everyone, applicable to the group home and individual to the resident.

It must also be highlighted that not all staff are able to participate in staff training. Only permanent staff are eligible. Therefore, the training is potentially available to one type of staff. From this study, the results indicate that casual staff have a lower nutrition knowledge more often than permanent staff. Hence changes in the prerequisites for training may have to be considered if the provision of nutrition care is to be improved.

The three most useful topics reported by staff for training in nutrition were general healthy nutrition, menu planning and drug-nutrient interactions, with a staff member commenting that " menu planning is very important especially in permanent group homes, so as to be aware of individual needs". These topics in general may be adequately covered within a manual such as suggested guidelines, however based on the data from this research, staff need information on how to apply their knowledge to the scenarios within their group home. This was summed up by a staff member's comment " it is essential that staff working in group homes have a thorough understanding of good nutrition as people with developmental disabilities are often dependent on the staff for their meals and have NO input in, or control of what they eat". Hence this research supports the study by Soneff et. al. (1994) which showed that a workshop (facilitated by a dietitian) and a manual are the absolute minimum training strategies for staff of group homes.

It was necessary to ascertain whether staff would participate in the training they had chosen. In fact, 95 per cent of permanent and casual staff reported that they were willing to attend training, indicating their enthusiasm to learn more about nutrition. However, often training sessions involve paid time off work which is often the premise for staff agreeing to participate.

Another point to consider when evaluating these results, is that 88 per cent of staff reported that nutrition should be a part of core training. This may indicate the importance staff place on nutrition and the need for all permanent staff to be abreast of such issues. Previous to 1995, core training involved participating in scheduled training sessions and having paid time off work. However due to changes within the NSW Department of Community Services and the mobile nature of this workforce core training has been replaced by a distance education format. This format was deemed to be more efficient as it is undertaken in the workplace and will be self-paced and supervised by the house manager as mentor (personal communication with NSW Council for Intellectual Disability). Staff have only become aware of these changes recently. With this in mind, it would be interesting to determine whether staff would have still indicated core training as often.

Considering that the results of this research suggest that staff may benefit most from training based on the individual needs of the residents, core training may be a futile form of nutrition education. Interactive and applicable learning may be the better alternative with regards to nutrition and meeting residents needs.

Staff were also asked to rate the need for guidelines about nutrition and meals in group homes, with over two-thirds of staff rating the need as essential. Guidelines could be one of a series of educational strategies aimed at group home staff. If group homes were to have documented step-wise procedures regarding the monitoring of nutritional status and assessing health, it would

give staff a benchmark to work with. Presently group homes are completely dependent upon the initiative of staff members and their ability to assess the health status of the residents. It is imperative that strategies in monitoring nutrition status and training are developed and widely available to all staff in group homes. Without such strategies the inequity of care will continue and the rights and quality of life of each resident, as stated by Beange and Bauman (1990), may be compromised.

## **14.6 Recommendations from this research.**

1. To provide at least a nutrition education manual plus training sessions with a dietitian experienced in developmental disability to all staff, both permanent and casual.
2. To provide follow-up training and continual revision of nutrition topics available to all staff, both permanent and casual.
3. To provide a consultant dietitian to service all 20 group homes in the Warringah Area.
4. To provide applicable information that is directly related to the issues confronting people with developmental disabilities.
5. To develop a simple monitoring program to aid staff in assessing the nutritional status of residents.
6. To provide specific training concentrating on skill development such as cooking meals, food shopping and menu planning.
7. To develop an assessment and evaluation program that can identify deficits in skills and knowledge of nutrition.
8. To emphasise that the nutrition needs of the residents will continually change with age, reliance on medication, degenerative conditions, behavioural complications, physical handicaps and so on, therefore nutrition education and intervention must continue.

## **CHAPTER FIFTEEN.**

## **CONCLUSION.**

This project assessed the nutrition knowledge, skills and attitudes of staff of group homes for people with developmental disabilities living in the Warringah Area. This research found that there is a need for staff training in nutrition, in particular, the application of nutrition knowledge to the specific needs of people with developmental disabilities for whom they care.

Eighty-three per cent of staff received a low-unacceptably low nutrition quiz score. The staff achieved a significantly higher score in those questions relating to basic nutrition knowledge compared with those questions relating to the application of nutrition knowledge ( $S = 116$ ,  $n = 143$ ;  $p = 0.01$ ). Furthermore 90 per cent of staff reported needing more nutrition knowledge. Hence this research found that staff in the Warringah Area have poor nutrition knowledge and are willing to have training with a view to enhancing their care for the residents. Lack of nutrition knowledge may therefore be a barrier to quality nutrition care.

Interestingly this research also found that female staff achieved a significantly higher nutrition score than male staff ( $t = 2.58$ ;  $d.f. = 141$ ;  $p = 0.0108$ ), and that permanent staff achieved a significantly higher nutrition score than casual staff ( $t = 2.109$ ;  $d.f. = 141$ ;  $p = 0.0367$ ). Hence not only is there a need for staff training, but a need to address specific groups of staff such as males and casuals.

Failure of the NSW Department of Community Services to recognise the need for nutrition training may be leading to poor nutrition care of residents with developmental disabilities. These issues should be addressed by the implementation of specific and appropriate training strategies.



## **CHAPTER SIXTEEN.**

## **LIMITATIONS OF THIS RESEARCH.**

1. The questionnaire was quite long, consisting of 75 questions which may have inhibited residential care staff from completing and returning it.
2. This research only studied the residential care staffs' views and opinions. There was no data based on the residents, therefore the presence of specific nutrition problems, for example, could not be examined or confirmed.
3. Section 3: Nutrition Quiz was adapted from another quiz developed for health workers. This enabled the analysis of the results to be standardised, however it limited the amount of questions relating to the nutrition care of residents in the group home environment to be asked.
4. No incentive was offered to staff members to fill in the questionnaire.
5. Only one area of metropolitan Sydney was studied. Comparison of data between areas may give further insight into the needs of staff in the provision of nutrition care.
6. The attitudes of staff to their role as nutrition providers was not adequately determined.
7. Further assessment of the nutrition skills of staff may have been valuable.
8. The methodology of personally handing out the questionnaires was a very time consuming process.

9. Questionnaire pick up involved collecting the pink folders containing both completed and uncompleted questionnaires. Therefore there was no second chance. If staff had not filled out the questionnaire in the original 3 week period, then there was a minimal chance that they would have the opportunity to fill it out after that time. Perhaps leaving uncompleted questionnaires and postage-paid envelopes may have encouraged even more staff to complete them, and hence increased the response rate further.
10. Evaluation procedures for the Likert scales were not determined previous to data collection. Therefore some of the categories were collapsed so as to measure the extreme responses.

## **AREAS FOR FURTHER INVESTIGATION.**

- \* Compare various areas/regions and their staffs' nutrition knowledge, skills and attitudes.
- \* Research staffs' nutrition knowledge with more depth.
- \* Research the role of the dietitian in the group home environment.
- \* Research various training methods and their applicability for use in the group home environment.
- \* Research the attitudes of staff as nutrition providers for residents of group homes.
- \* Conduct a dietary audit of group homes in various areas/regions and compare the presence of nutrition problems and the implementation of dietary procedures and advice.
- \* Research the various areas/regions and determine their procedures regarding the provision of nutrition care in group homes.
- \* Research the nutrition issues that surround people with developmental disabilities and how staff recognise and service these issues.
- \* Research the knowledge of dietitians regarding people with developmental disabilities, their nutrition risks and how to assess and treat them. Determine whether there is a need for further education specifically related to the treatment of this minority population.

- \* Research the knowledge of general practitioners regarding people with developmental disabilities, their nutrition risks and how to assess and treat them. Determine whether there is a need for further education specifically related to the treatment of this minority population.
  
- \* Conduct a longitudinal study of the people with developmental disabilities who are moving from the institutional setting into group homes. Monitor their nutritional status and health over a period of years to determine whether specific issues associated with the shift to group homes need to be addressed, such as the equity of health care in the community, and the lack of structure in their eating patterns.
  
- \* Research the effect of deinstitutionalisation on the community's various resources such as delivery of health and medical services.

## **CHAPTER SEVENTEEN.**

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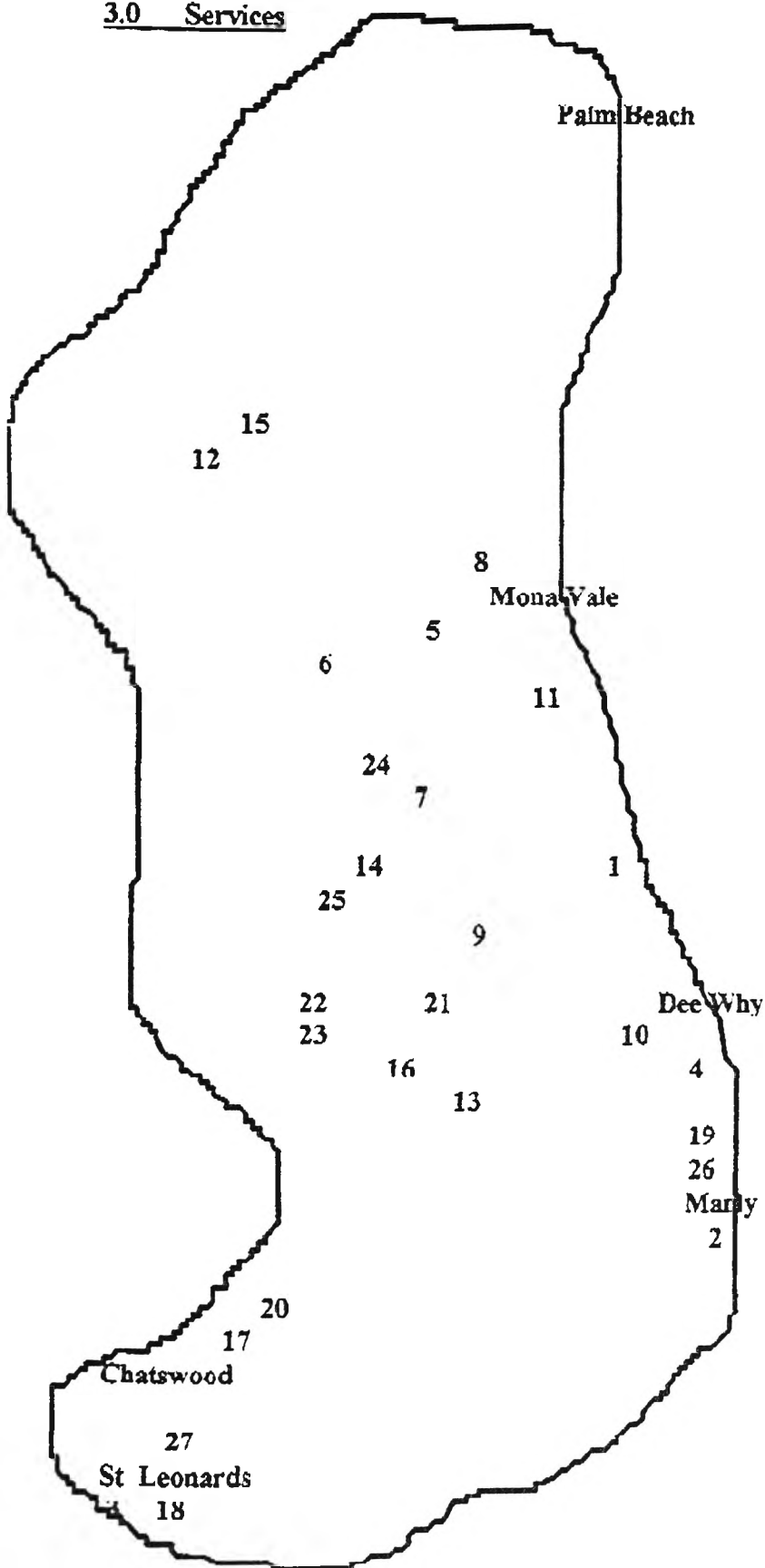
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## **APPENDICES.**

## **APPENDIX 1.**

### **Map of the Warringah Area.**

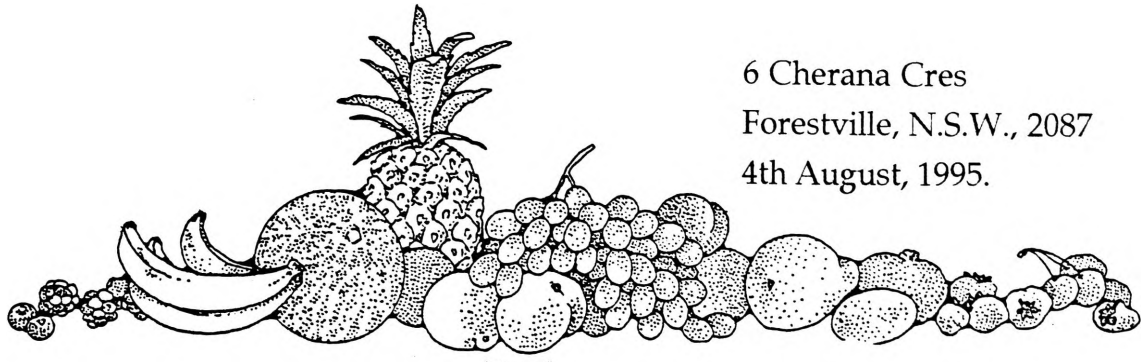
# WARRINGAH AREA LIST OF SERVICES



1. COLLAROY SITE, COLLAROY
  - i) Warringah Area Office
  - ii) Northern Beaches Community Team
  - iii) Collaroy Adult Training Centre
2. MANLY COMMUNITY SERVICES CENTRE, MANLY
  - i) Manly Program Support Team
3. ST LEONARDS COMMUNITY SERVICES CENTRE, ST LEONARDS
  - i) Montrose Child Assessment Centre
4. BILLENYA ADULT TRAINING CENTRE  
North Curl Curl
5. POWDERWORKS ROAD, CLP Home, Elanora Hts
6. COOLANGATTA ROAD, CLP Home, Elanora Hts
7. CONISION STREET, CLP Home, Wheeler Hts
8. WESLEY STREET, CLP Home, Elanora Hts
9. KAMBORA AVENUE, CLP Home, Davidson
10. BROOKVALE ADULT TRAINING CENTRE, Brookvale
11. WOORARRA ROAD, CLP Home, Narrabeen
12. CURRONG CIRCUIT, CLP Home, Terrey Hills
13. WANDELLA ROAD, CLP Home, Allambie Hts
14. YARRABIN STREET, CLP Home, Belrose
15. DANDENONG ROAD, CLP Home, Terrey Hills
16. ETHIE ROAD, CLP Home, Allambie
17. BOUNDARY ROAD, CLP Home, Roseville
18. LOWER NORTH SHORE COMMUNITY TEAM
19. WILLIAM STREET, CLP Home, Harbord
20. FERN COURT AVENUE, CLP Home, Chatswood
21. TRISTRAM ROAD, CLP Home, Beacon Hill
22. 26 BANTRY BAY ROAD, Respite Home, Frenchs Forest
23. 24 BANTRY BAY ROAD, Respite Home, Frenchs Forest
24. HEATHER STREET, Respite Home, Wheeler Hts
25. KARALTA CRESCENT, Respite Home, Belrose
26. CAMPBELL PARADE, CLP Home, Manly Vale
27. HEALTH PROMOTION UNIT, Royal North Shore Hospital, St Leonards

## **APPENDIX 2.**

**Letter to the house managers.**



6 Cherana Cres  
Forestville, N.S.W., 2087  
4th August, 1995.

**TO THE HOUSE MANAGER.**

*Do you feel the nutrition concerns of your clients are being met??*

After working in group homes for more than 3 years, having a brother who lives in a group home and being in my final year of a Masters degree majoring in Nutrition and Dietetics, I would like your opinion.

As part of my Masters degree I have to complete a Major Project. People with developmental disabilities living in group homes, in particular their nutrition concerns, have always been of interest to me. Hence I am going to research the topic of:

**"Identifying the Barriers to Quality Nutrition Care for People with Developmental Disabilities Living in Group Homes in the Warringah Area".**

This study focuses on the views of all staff regarding food and nutrition issues. It aims to identify staff's knowledge and attitudes about nutrition in group homes, and shall aim to give recommendations for change.

You should have already received a letter from Ilze Frank regarding her endorsement of the study. This letter is to inform you, as House Manager, of the research to be undertaken. I will contact you soon, by phone, to explain the research further and arrange a mutually appropriate time to meet both you and the staff. This meeting shall allow time to explain and distribute a questionnaire, and for the staff to ask any questions they may have about the study.

Your assistance and support would be appreciated, as this project aims to identify and improve the nutritional needs of all residents, as well as assist staff in their role of caring for people with developmental disabilities. If you have any questions about the study, please contact me on (02) 4514051.

*Thankyou for your time and co-operation.*

Yours Sincerely,

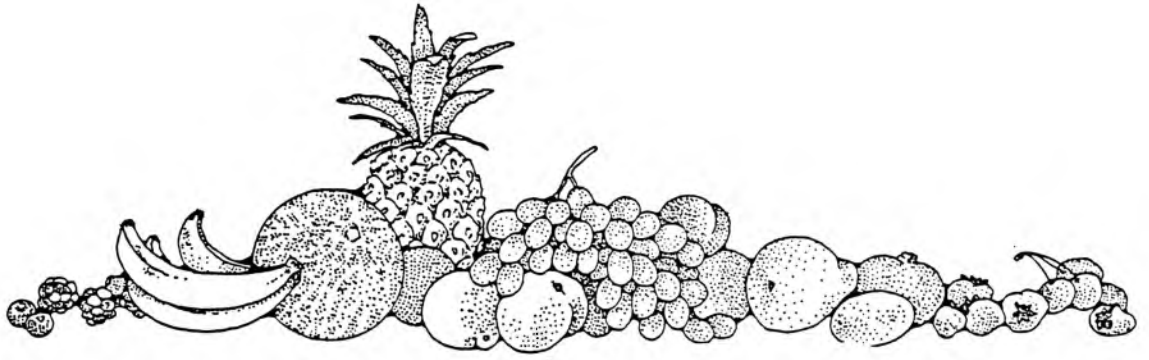
Nicole J. Circuit.

Master of Science (Nutrition & Dietetics).

### **APPENDIX 3.**

**Reminder poster.**





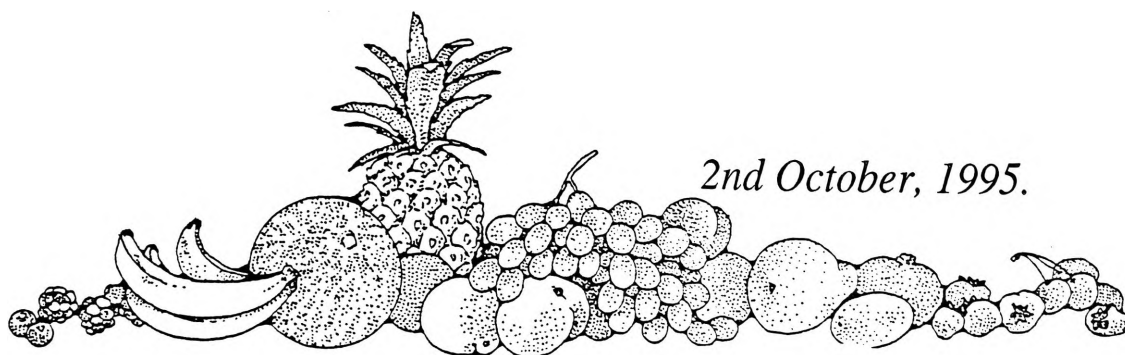
# Have You Filled In a Nutrition Questionnaire??

*Please complete and  
return to the folder*

*Thanks.*

## **APPENDIX 4.**

**Thankyou letter.**



2nd October, 1995.

*Dear Staff,*

*This is letter is to say.....*

**THANK YOU !!!!**

*for the great response rate I received for the Nutrition Questionnaire. I really appreciate the time and effort most of you put in to complete and return it on time.*

*If there are any outstanding questionnaires could you please forward them to me at:*

*Nicole Circuit  
6 Cherana Cres  
Forestville, 2087.*

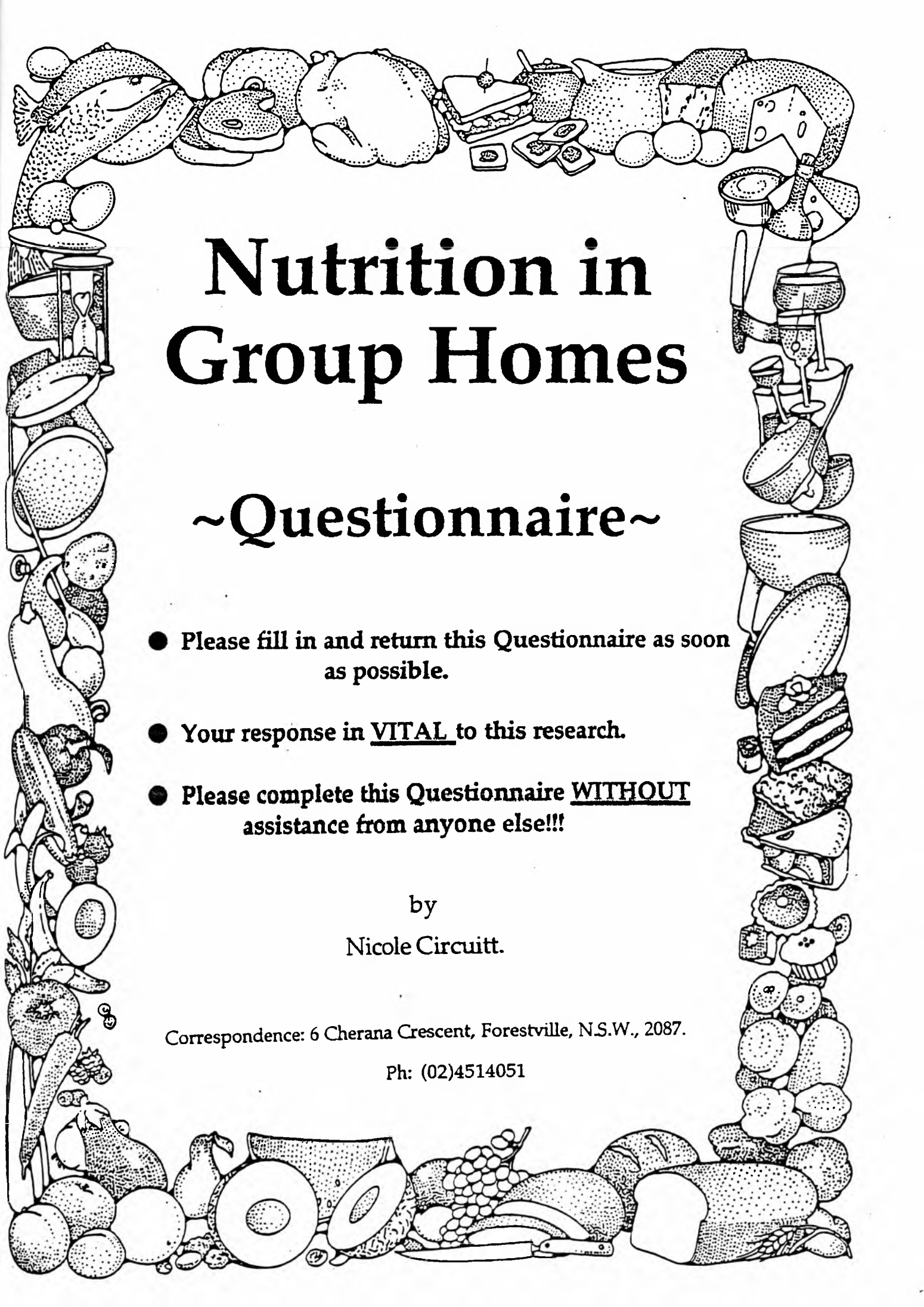
*Once the research is finalised each house shall be sent a copy of the results.*

*Thanks once again for you co-operation!!*

*Nicole Circuit.*

## **APPENDIX 5.**

### **Survey Questionnaire.**



# Nutrition in Group Homes

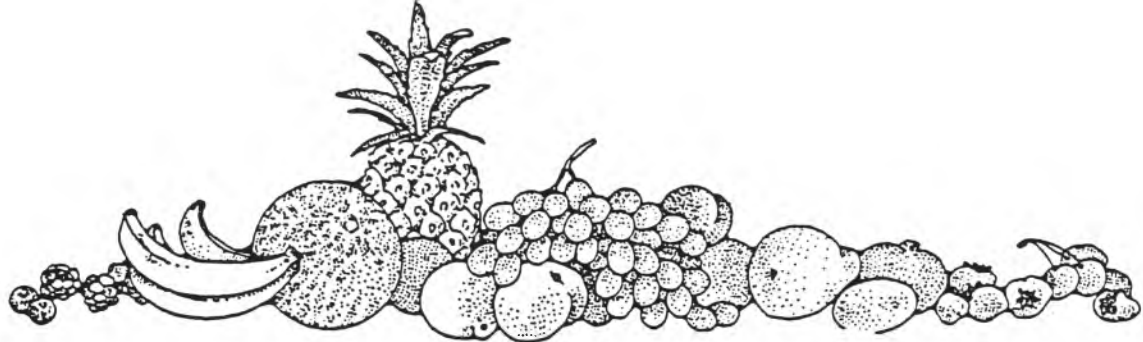
## ~Questionnaire~

- Please fill in and return this Questionnaire as soon as possible.
- Your response in VITAL to this research.
- Please complete this Questionnaire WITHOUT assistance from anyone else!!!

by  
Nicole Circuiti.

Correspondence: 6 Cherana Crescent, Forestville, N.S.W., 2087.

Ph: (02)4514051



## ~PARTICIPANT INFORMATION SHEET~

*Dear Staff Member,*

*My name is Nicole Circuitt and I am conducting a study of all staff who work with people with developmental disabilities in the Warringah Area, and would greatly appreciate your assistance. The study focuses on the views of all staff regarding food and nutrition issues, within group homes.*

*This Research Project is being conducted as part of a Masters degree majoring in Nutrition and Dietetics, supervised by Professor Harris, in the Department of Public Health and Nutrition, at the University of Wollongong.*

*Your assistance will contribute to identifying and providing better nutrition care for people with developmental disabilities living in group homes. Your participation is voluntary, with completion and return of the questionnaire signalling your consent.*

*Please find enclosed your questionnaire. As you can see, the information provided will be totally anonymous. No names or residents information is required. The questionnaire should take about 10-15 minutes to complete, with the results being available once the study is finished.*

*Please return the completed survey to the supplied envelopes in all group homes, or the enclosed address. Your response is required by the*  
**22nd September, 1995.**

*If you have any enquiries regarding the conduct of the research please contact the Secretary of the University of Wollongong Human Research Ethics Committee on (042) 214457.*

*Thankyou for your time and assistance.*

*Yours Sincerely,*

Nicole J. Circuitt.

Master of Science (Nutrition & Dietetics).

# Section 1: About YOU

Please TICK one box per question.

1. Sex: M ☐ Male OR F ☐ Female

2. Age (in years): 1 ☐ 18-25 2 ☐ 26-35 3 ☐ 36-45 4 ☐ 46-55 5 ☐ 56-65

3. Are you employed as: P ☐ Permanent staff OR C ☐ Casual staff

4. Do you predominantly work in:

H ☐ Permanent residential houses

R ☐ Respite care houses

5. Do you work in the:

M ☐ Manly District

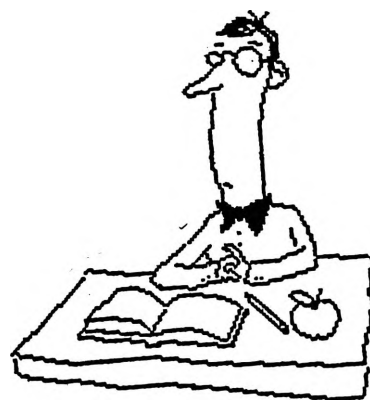
S ☐ St Leonards District

6. Do you predominantly work:

D ☐ Weekdays

E ☐ Weekends

B ☐ Both



7. Which shift do you work MOST?

1 ☐ Morning

2 ☐ Afternoon

3 ☐ Night

4 ☐ Mixture, please specify.....

8. How many hours per week (on average) do you work?

1 ☐ 10 hours or less

2 ☐ 11-20 hours

3 ☐ 21-30 hours

4 ☐ 31-40 hours

5 ☐ 40 + hours

9. How long have you worked in group homes?

1 ☐ Less than 1 year

2 ☐ 1-3 years

3 ☐ 4-6 years

4 ☐ 7-9 years

5 ☐ 10 years or more

## Section 2: Nutrition Practice

**Concentrate on your experiences in ONE house.**

**If you work in more than one house, please choose the one you are MOST familiar with.**

10. Number of residents in the house.....

11. How many residents require assistance with cooking and preparation of meals?.....

12. Please indicate the level of assistance provided to residents: *(please circle option which applies)*

1	2	3	4	5
Staff cook independently	Staff cook with residents assistance	Equal assistance	Residents cook with staff's assistance	Residents cook independently

13. How many residents require assistance with feeding? .....

14. Do you have the role of teaching any residents to: *(tick one box)*

- (i) Cook ☐ YES or ☐ NO  
(ii) Shop ☐ YES or ☐ NO

15. Who does the shopping in the house? *(tick one box)*

- ☐ House Staff  
☐ Residents  
☐ Both



16. In your chosen house, is there a: *(tick appropriate boxes)*

- (i) Household shopping budget? ☐ YES or ☐ NO  
(ii) Food budget? ☐ YES or ☐ NO

17. In your chosen house, is there a: *(tick appropriate boxes)*

- (i) Shopping list? ☐ YES or ☐ NO

If YES, who writes the list? ☐ Staff ☐ Residents ☐ Both

- (ii) Planned menu? ☐ YES or ☐ NO

If YES, who chooses the menu? ☐ Staff ☐ Residents ☐ Both



18. Please write down the evening meal the residents ate on the LAST night you worked.

.....

.....

.....

.....

.....

.....

19. Do you consider this meal to be healthy? (please tick) ☐ YES or ☐ NO

20. What is it about the meal that is healthy/ not healthy?

.....

.....

.....

.....

.....

21. How often would the meal you've described be eaten at your chosen house?

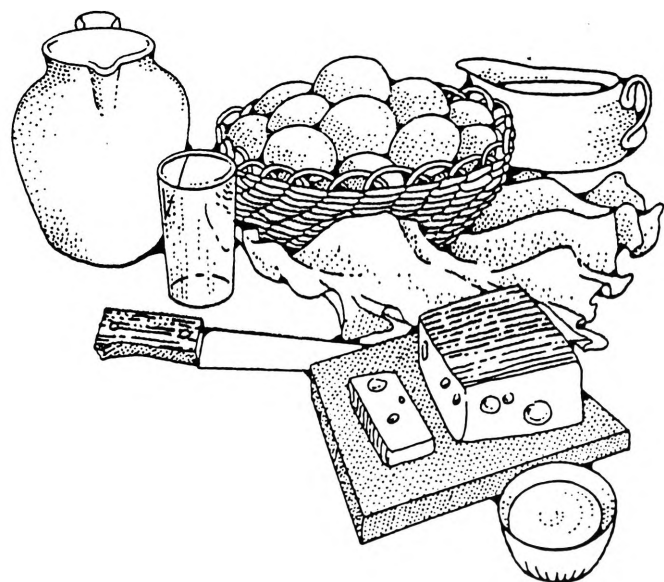
(please circle correct response)

- 1  
every 2-3 months
- 2  
each month
- 3  
each fortnight
- 4  
each week
- 5  
each day

22. Do any of the residents in your chosen house have the following nutritional problems?

Please tick as many as appropriate.

- (a) ☐ Underweight
- (b) ☐ Overweight
- (c) ☐ Constipation
- (d) ☐ Diarrhoea
- (e) ☐ Reflux/ Regurgitation
- (f) ☐ Swallowing difficulties
- (g) ☐ Refusal to eat certain foods
- (h) ☐ Diabetes
- (i) ☐ Require pureed or soft foods
- (j) ☐ Poor Appetite
- (k) ☐ Excessive Appetite
- (l) ☐ Allergies and/or Intolerances to foods
- (m) ☐ Other, please specify.....



23. Do any of the residents in your chosen house follow these diets? (tick as many as appropriate)

- (a) ☐ Weight reduction diet  
(b) ☐ Low fat diet  
(c) ☐ Food Supplements (to put on weight)  
(d) ☐ High fibre diet  
(e) ☐ Puree or soft foods diet  
(f) ☐ Diabetic diet  
(g) ☐ Other, please specify.....



24. Is the body weight of the residents monitored within the house? ☐ YES or ☐ NO

(if NO go to Q25)

(i) If YES, how often would weight be monitored? (tick one)

- 1 ☐ Weekly    2 ☐ Fortnightly    3 ☐ Monthly    4 ☐ 3-Monthly    5 ☐ 6-Monthly

(ii) If YES, are ALL the residents weights monitored?

☐ YES or ☐ NO

25. Who is responsible for the nutrition care of the residents in your group home?

(please tick )

- |  |  |
|--|--|
| 1 <input type="checkbox"/> House Manager           | 4 <input type="checkbox"/> Casual Staff    |
| 2 <input type="checkbox"/> Assistant House Manager | 5 <input type="checkbox"/> Permanent Staff |
| 3 <input type="checkbox"/> Residents               | 6 <input type="checkbox"/> All Staff       |

26. Do you think that the resident's nutritional needs are being met in your chosen group home? (please tick)

☐ YES or ☐ NO

27. If you believe they are NOT being met, please indicate the basis for your belief:

.....  
.....  
.....  
.....  
.....

28. What changes could you suggest to improve the resident's nutrition care?

(If you have NO suggestions, please go to Q30)

.....  
.....  
.....  
.....  
.....

29. Are the changes you have suggested easy to implement?

☐ YES or ☐ NO

30. Are you informed of the special dietary requirements of the residents? ☐ YES or ☐ NO  
(If NO go to Q32)

31. Are you informed by:  
(please tick )

- 1 ☐ House Manager
- 2 ☐ Other Staff
- 3 ☐ Residents
- 4 ☐ Client Information File
- 5 ☐ Other, please specify.....

## CASE STUDY

32. A resident with a mild-moderate developmental disability is grossly overweight, has diabetes and is puffed and out of breath when walking around the house. The client is NOT willing to cut down on their eating, after being asked to by staff on numerous occasions.

In terms of your duty of care, please rank up to 5 options (1 = most important) that you would implement in this situation.

- (a) ☐ Educate and encourage about weight loss
- (b) ☐ Chastising the client
- (c) ☐ Counselling the client
- (d) ☐ Bar them from the kitchen
- (e) ☐ Encourage exercise
- (f) ☐ Introduce a meal plan
- (g) ☐ Put them on a diet
- (h) ☐ Negotiate with client ways to help
- (i) ☐ Lock the fridge
- (j) ☐ Seek professional advice, ie. a Dietitian
- (k) ☐ Restrict their money so they cannot buy food
- (l) ☐ Establish a reward / punishment scheme
- (m) ☐ Change shopping list
- (n) ☐ Other, please specify.....

**OR**

- (o) ☐ Do nothing



33. How do you rate your skills in food shopping? *(please circle correct response)*

1	2	3	4	5
Poor				Excellent

34. How do you rate your skills in menu planning? *(please circle correct response)*

1	2	3	4	5
Poor				Excellent

35. How do you rate your skills in cooking meals? *(please circle correct response)*

1	2	3	4	5
Poor				Excellent

36. In your chosen group home, what importance is given to: *(please circle correct response)*

(i) Menu Planning:

1	2	3	4	5
No importance				Very Important

(ii) Food Budget:

1	2	3	4	5
No importance				Very Important

(iii) Nutrition content of meals:

1	2	3	4	5
No importance				Very Important

(iv) Resident's Dietary Needs:

1	2	3	4	5
No importance				Very Important

(v) Taste of the meals:

1	2	3	4	5
No importance				Very Important

(vi) Texture of the meals:

1	2	3	4	5
No importance				Very Important

(vii) Appearance of the meals:

1	2	3	4	5
No importance				Very Important

(viii) Variety of the meals:

1	2	3	4	5
No importance				Very Important

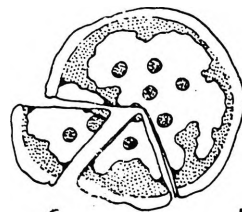


### 37. How often would your chosen group home eat meals or snacks from:

(Please circle the appropriate answer)

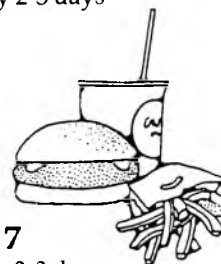
#### (i) SIZZLER

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|



#### (ii) PIZZA HUT

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|

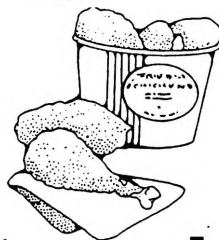


#### (iii) McDONALDS

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|

#### (iv) KENTUCKY FRIED CHICKEN

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|



#### (v) TAKE-AWAY, eg. Fish and Chips

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|



#### (vi) SNACK OUTLETS, eg. Cake Shop, Milk Bar

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|

#### (vii) RESTAURANTS, eg. Chinese, Black Stump, Clubs etc.

- |                   |                            |                              |                        |                            |                       |                            |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|
| <b>1</b><br>Never | <b>2</b><br>Every 6 months | <b>3</b><br>Every 2-3 months | <b>4</b><br>Each month | <b>5</b><br>Each fortnight | <b>6</b><br>Each week | <b>7</b><br>Every 2-3 days |
|-------------------|----------------------------|------------------------------|------------------------|----------------------------|-----------------------|----------------------------|

## Section 3: Nutrition Quiz

*Please circle the correct option.*

	True	False	Unsure
38. Fruit juice and fruit drinks are much lower in sugar than ordinary soft drinks and cordials	1	2	3
39. Meat is a poor source of fibre	1	2	3
40. As long as you use polyunsaturated oils and margarines in cooking you can use as much as you like	1	2	3
41. The average adult should drink 1.5 to 2.0 litres of fluid per day	1	2	3
42. One way people can cut down the amount of fat in their diet is to use margarine instead of butter	1	2	3
43. The way food is grown and processed today it is essential that diets be supplemented with vitamins and minerals	1	2	3
44. To help maintain healthy bones we should have 3 serves of dairy foods per day	1	2	3
45. Foods labelled 'low cholesterol' are automatically low in fat	1	2	3
46. For weight control bread, rice and pasta should be avoided	1	2	3
47. Flavourings such as soy sauce, vegetable salt and garlic salt are good low sodium substitutes for table salt	1	2	3
48. Everyone needs to eat meat to ensure an adequate protein intake	1	2	3
49. Vegetarian diets are often deficient in Vit B12, iron and calcium	1	2	3
50. Salmonella food poisoning organisms are most likely to be found in homogenised milk	1	2	3
51. People with asthma should avoid dairy foods	1	2	3

# TICK the MOST correct answer only.

*There is only ONE correct answer per question.*

52. For maximum health it is good to:

- 1 ☐ Undergo regular fasts (no food for 24 hours once every 2 weeks)
- 2 ☐ Eat only fruit until lunchtime
- 3 ☐ Avoid all alcohol
- 4 ☐ Eat regular meals of food from the 5 food groups



53. In general, a person with constipation should be encouraged to:

- 1 ☐ Use nuts as a snack food
- 2 ☐ Eat more fruit and vegetables
- 3 ☐ Drink fruit juice
- 4 ☐ Avoid dairy products

54. Suitable meat substitutes for vegetarians include:

- 1 ☐ Eggs, spinach, nuts
- 2 ☐ Baked beans, nuts, soy beans
- 3 ☐ Nuts, potatoes, chickpeas
- 4 ☐ Unsure

55. Complex carbohydrates include:

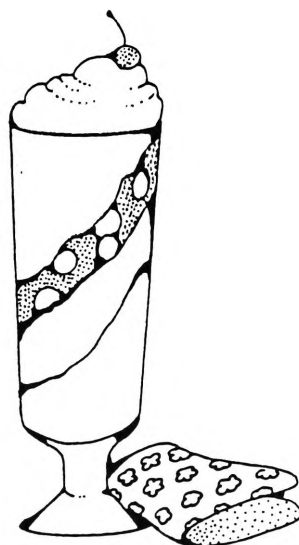
- 1 ☐ Spaghetti, rice, bread
- 2 ☐ Sugar, potato, fruit
- 3 ☐ Chocolate, oats, flour
- 4 ☐ Unsure

56. How many teaspoons of sugar are there in one (375ml) can of soft drink, such as Coke?

- 1 ☐ None
- 2 ☐ 4 teaspoons
- 3 ☐ 8 teaspoons
- 4 ☐ 12 teaspoons
- 5 ☐ Unsure

57. Which contains the least fat?

- 1 ☐ 50ml evaporated milk
- 2 ☐ 100ml homogenised milk
- 3 ☐ 200ml reduced fat milk
- 4 ☐ 200ml low-fat milk
- 5 ☐ Unsure



58. When storing raw meat in the refrigerator it is MOST important to store it :

- 1 ☐ Covered with a clean cloth
- 2 ☐ Away from any cooked food
- 3 ☐ Away from the refrigerator door
- 4 ☐ In the plastic bag supplied from the butcher
- 5 ☐ Unsure

59. Which breakfast would be the HEALTHIEST?

- 1 ☐ Cup of tea or coffee
- 2 ☐ Eggs and bacon
- 3 ☐ Cereal and fruit
- 4 ☐ All of the above
- 5 ☐ Unsure

60. To lose weight, it is BEST to:

- 1 ☐ Only eat fruit before 12 noon
- 2 ☐ Exercise more and eat less fat
- 3 ☐ Avoid dairy food and red meat
- 4 ☐ Unsure

61. Which lunch would have the MOST fat?

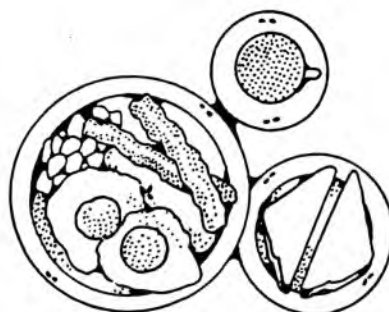
- 1 ☐ Egg and salad roll with fruit juice
- 2 ☐ Pie and chips
- 3 ☐ Crispbread and avocado
- 4 ☐ Unsure

62. If a resident was underweight and required additional energy to put on weight, what would be the BEST choice?

- 1 ☐ Apple
- 2 ☐ Packet of chips
- 3 ☐ Banana Smoothie
- 4 ☐ Wheatmeal biscuits

63. If a resident wanted to lose weight, which snack food would be the BEST choice?

- 1 ☐ Packet of chips
- 2 ☐ Cheese stick
- 3 ☐ Muesli Bar
- 4 ☐ Fruit yoghurt





## Section 4: For the Future

64. Have you received any formal nutrition training via courses, seminars etc.? ☐ YES or ☐ NO

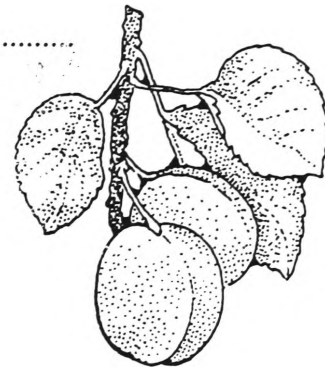
(if NO, go to Q 67)

65. If YES, please specify form of training:

- 1 ☐ As part of University training
- 2 ☐ Continuing Education courses
- 3 ☐ Own reading / interest
- 4 ☐ Nutrition workshops
- 5 ☐ External courses
- 6 ☐ Other, please specify.....

66. What nutrition or diet topics have you received education or training in:

- 1 ☐ Diabetes
- 2 ☐ Weight loss
- 3 ☐ Heart Disease
- 4 ☐ General Healthy Nutrition
- 5 ☐ Drug interactions and nutrition
- 6 ☐ Other, please specify.....



67. Do you think that staff need more knowledge about nutrition? (please tick) ☐ YES or ☐ NO

68. If YES, please list important areas:

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69. To your knowledge, what nutrition resources have been used in your group home?

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70. Where would you rate the need for Guidelines about nutrition and meals in group homes?

(please circle)

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_

No Need                                      Necessary                                      Essential

71. Should Nutrition be part of Core Training for staff in group homes? ☐ YES or ☐ NO



72. What ways would you consider to be effective, as methods for training staff in nutrition?

(Please rank your first three choices with 1 = most effective method of training).

- (a) ☐ Core Training
- (b) ☐ Inservice Training day
- (c) ☐ Departmental Policy Manual on nutrition for group homes
- (d) ☐ Workshops for 1 day
- (e) ☐ Consultant Dietitian visiting each house
- (f) ☐ Suggested Guidelines on nutrition care for group homes
- (g) ☐ Other.....

73. Would YOU participate in the training you have chosen?

☐ YES or ☐ NO

74. What food and nutrition topics would be useful?

Please number in descending order with 1= most useful.

- |   |   |
|---|---|
| (a) <input type="checkbox"/> Food Safety                | (g) <input type="checkbox"/> Menu Planning                  |
| (b) <input type="checkbox"/> Food Purchasing            | (h) <input type="checkbox"/> Food Storage                   |
| (c) <input type="checkbox"/> Weight Loss                | (i) <input type="checkbox"/> Drug and Nutrient Interactions |
| (d) <input type="checkbox"/> Diabetes                   | (j) <input type="checkbox"/> Heart Disease                  |
| (e) <input type="checkbox"/> General Healthy Nutrition  |   |
| (f) <input type="checkbox"/> Other, please specify..... |   |

75. Do you have any further comments to make regarding nutrition and people with developmental disabilities living in group homes?

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**Well that's it!**

***Thankyou for participating in this study. Your time and co-operation is greatly appreciated.***

NOTE: Please ensure that you have filled in both sides of all the pages. Return completed Questionnaires to the envelopes provided in every group home by:

**22nd September, 1995**

